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FCC Regulations

Color Bubble Jet Printer, Model K10158

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of Canon Cable BIFC-50 provided with the printer is required to comply with class B limits in Subpart B of Part 15 of FCC Rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Canon U.S.A. Inc.
One Canon Plaza, Lake Success, NY 11042, U.S.A.
Tel No. (516) 328-5600

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus”, ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, NMB-003 édictée par l’Industrie et Sciences Canada.

International ENERGY STAR® Program

As an ENERGY STAR® Printer, Canon Inc. has determined that this product meets the ENERGY STAR® guidelines for efficiency.

The International ENERGY STAR® Office Equipment Program is a global program that promotes energy saving through the use of computer and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which businesses can participate voluntarily. The targeted products are office equipment such as computers, monitors, printers, faxes and copiers. Their standards and logos are uniform among participating nations.

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Chapter 1

Introduction

Congratulations on your purchase of the Canon BJC-50 Bubble Jet Printer. We appreciate you choosing this printer to meet your printing needs. The BJC-50 is compact, lightweight, and offers excellent colour print quality. We hope you will be satisfied with this advanced Bubble Jet technology.

How to use this manual

The user's manual contains basic information about the printer, such as initial setup procedures, basic operation, the use of supplies and options, daily maintenance, troubleshooting, character sets, printer commands, and so on. Read this manual carefully in order to get the most out of your printer. The manual consists of eight sections.

Chapter 1 Introduction
Introduces the features, options, and supplies available for the printer.

Chapter 2 Setting Up the Printer
Gives instructions for setting up the printer and managing the printer features. It also describes the printer's components and gives advice on caring for your printer.

Chapter 3 Paper Handling
Explains how to select the appropriate paper or special media and how to load paper into the printer. It also gives precautions necessary for handling print media.

Chapter 4 Performing Test Prints
Explains how to perform all the test prints.

Chapter 5 Colour Printing and Black-and-White Printing
Provides helpful hints on getting optimum results for colour printing with the Color BJ Cartridge BC-11e and for black-and-white printing with the Black BJ Cartridge BC-10.

Chapter 6 Maintaining the Printer

Explains how to replace ink cartridges and BJ Cartridges, clean the print head and printer, and describes the proper procedures for printer transportation and storage. Also describes installation of the optional Color Image Scanner Cartridge IS-12.

Chapter 7 Troubleshooting

Gives detailed instructions for solving common problems. If you have any difficulties, refer to this section.

Appendices

Lists paper specifications, character set tables, printer commands, accessories and specifications.

Conventions

This manual employs the following conventions to alert you to information that will help you use the printer safely and efficiently.

CAUTIONS ABOUT ACTIONS THAT COULD DAMAGE YOUR HARDWARE OR SOFTWARE.

Advice or suggestions.

(☞12) A number preceded by this mark and enclosed in parentheses tells you the page number where you can find more information about the previous sentence or paragraph.

Read this first!

As you unpack the box check each item against this sheet to make sure that you have everything. This sheet also shows you how to remove the tape and packing material from the printer.

Quick Start Guide

The Quick Start Guide summarises the steps for setting up the printer and installing the Windows printer driver. If you are familiar with computers and printers, follow the steps in this illustrated guide to get set up as quickly as possible.

Features and benefits

This section summarises the features and benefits of the BJC-50.

Compact portable design

The printer's extremely compact design and light weight allow it to fit easily into a briefcase. Despite its small size the printer has full colour printing capability on plain paper and a variety of other media. The rechargeable lithium-ion battery pack allows you to operate the printer without connecting the AC adapter. The battery pack will print up to 100 pages of normal black text at 1,500 characters per page.

Excellent print quality and speed in both colour and black and white

With the Windows Printer Driver, your printer can print colour at 720 x 360 dpi (horizontal x vertical) resolution. In addition, the new Color BJ Cartridge BC-11e can generate two sizes of ink droplets. This feature delivers superior print quality, especially with graphic images.

High quality ink

The BJ Cartridges contain high quality inks. The Black BJ Cartridge BC-10 is used for black-and-white printing and the Color BJ Cartridge BC-11e is used for colour printing. An advanced ink formula eliminates many problems common to ink jet printers. These inks are not easily affected by light. They dry quickly, look great on plain paper, and are extremely smudge-resistant.

Quiet printing

The BJC-50's non-impact printing operates quietly.

Simple maintenance

The BJC-50 uses removable print head units so it needs little maintenance. The Color BJ Cartridge BC-11e has three main parts: a colour ink cartridge, a black ink cartridge, and a print head unit. The Black BJ Cartridge BC-10 has two main parts: one black ink cartridge and a print head unit.

Wireless Connection

The BJC-50 has a built-in infra-red IrDA interface which enables a wireless interface with a suitably equipped computer. If your computer has an IrDA interface, this gives improved portability.

Scanner feature

By switching the black or colour BJ Cartridge with the optional Color Image Scanner Cartridge IS-12, you can turn the printer into a colour image scanner.

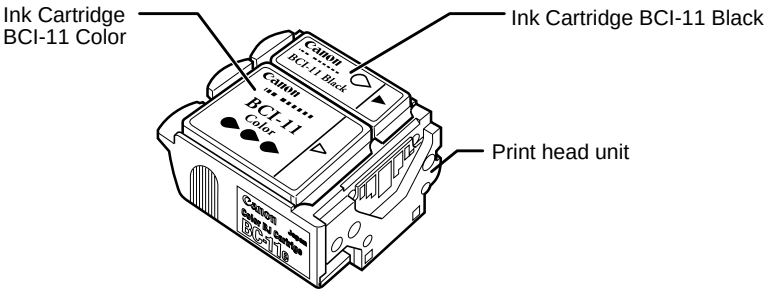
Options and supplies

Canon offers the following options and supplies. Whenever you need any of these replaceable items, contact a local Canon Authorised Dealer or your Canon marketing representative.

BJ Cartridges and ink cartridges

Color BJ Cartridge BC-11e

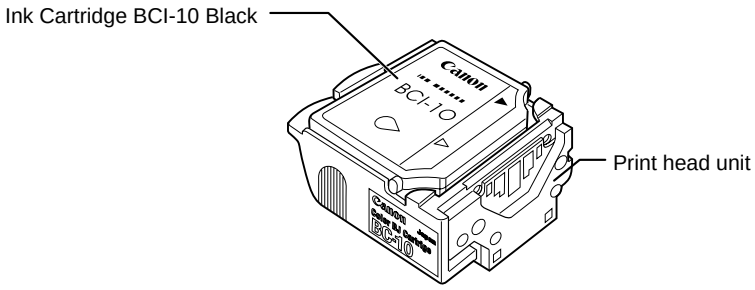
This cartridge incorporates a Bubble Jet print head unit and two replaceable ink cartridges: BCI-11 Color and BCI-11 Black as described below.



- **BCI-11 Black**: This is a replacement for the black ink cartridge used in the Color BJ Cartridge BC-11e.
- **BCI-11 Color**: This is a replacement for the three-colour ink cartridge used in the Color BJ Cartridge BC-11e.

Black BJ Cartridge BC-10

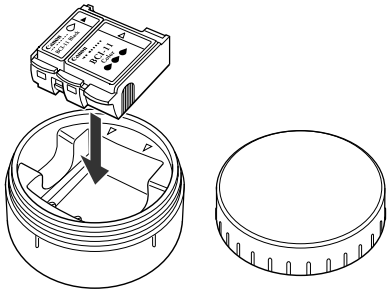
This cartridge contains both a print head unit and replaceable black ink cartridge. This cartridge is more cost-effective for black-and-white printing and enables faster output.



- **BCI-10 Black**: This is a replacement for the black ink cartridge used in the Black BJ Cartridge BC-10.

BJ Cartridge Storage Container SB-10

This is an optional extra storage container, like the one you received with your printer, for storing a partially used Color BJ Cartridge BC-11e or Black BJ Cartridge BC-10.



Color Image Scanner Cartridge IS-12

This optional Scanner Cartridge turns your printer into a colour scanner. To use the printer as a scanner, you must have the optional Color Image Scanner Cartridge IS-12, Windows 98/Windows 95 or Windows NT 4.0, and a Canon Printer Cable BIFC-50 (the IrDA interface is not recommend for this function) to connect the printer and the computer. The Color Image Scanner Cartridge IS-12 drops into the position normally occupied by the BJ Cartridge.

Note

You must install and use the IS Scan 1.20 scanner driver (supplied with the printer) or higher. Earlier versions of this scanner driver do not work correctly with the BJC-50.

Print media

To extend the capabilities of your printer, Canon offers several types of special print media.

High Resolution Paper HR-101

Use this coated high-grade matt paper to achieve stunning photo images. The coating used on this paper is of a unique formula that ensures full compatibility with your Canon colour inks. Use this paper for crisp colour on a high-quality, non-glossy paper. A4 and Letter sizes are available.

Bubble Jet Paper LC-301

Specially designed for Canon Colour Bubble Jet printers, this paper produces sharp and vivid colour output with a more natural appearance. This water-resistant plain paper has been developed by Canon for optimum colour printing. This excellent value paper offers an affordable alternative to plain paper for everyday use. A4 and Letter sizes are available.

Transparencies CF-102

Transparencies (also called Over Head Projection film or OHP film) will produce crisp and professional images and text for overhead presentations. Other transparencies may either not feed correctly into the printer or not allow the inks to dry properly leading to running and smearing of the colours. Canon overhead transparencies are specially designed to avoid these problems. A4 and Letter sizes are available.

Back Print Film BF-102

This unique Glossy Film allows you to print extremely high quality colour photographic images and graphics. It can be viewed either using rear illumination, such as a light box, or as a regular print. Back Print Film is a mylar translucent sheet. When viewed with a light box, Back Print Film provides a sharp, bright, and vivid presentation of photographs, portraits, and graphics. It is great for trade show displays and other special presentations. A4 and Letter sizes are available.

Glossy Photo Paper GP-301

The printer can produce sharp and vivid colour output on this high-grade Glossy Paper because this medium is water resistant and is fully compatible with Canon colour inks. Use this paper for your printed output that requires crisp colour rendering on a high-quality Glossy Paper. A4 and Letter sizes are available.

Glossy Photo Cards FM-101

Glossy Photo Cards FM-101 have detachable edges that you can remove after printing so that prints look like borderless photographs. This media is ideal for printing items such as invitation cards. Feed paper using the optional Auto Sheet Feeder ASF-50. For detailed instructions about using this media, refer to the instruction sheet provided with each packet of Glossy Photo Cards FM-101.

High Gloss Film HG-101

The printer produces sharp and brilliant colour output on this high grade gloss film. High Gloss Film is fully compatible with your Canon colour inks. Use this film for trade show displays or other special presentations. You can gain sharper and more vivid colour output with High Gloss Film than with Coated Paper or Glossy Paper. A4 and Letter sizes are available.

Fabric Sheet FS-101 (241 x 356 mm)

This Fabric Sheet is specially designed for Canon Bubble Jet printers. Use this printable white, cotton fabric to produce your own embroidery designs, pillows, appliqués, and so on. For detailed instructions about using this medium, refer to the instruction sheet provided with each packet of Fabric Sheet FS-101.

T-Shirt Transfer TR-201 (216 x 279 mm) (TR-101 in the U.S.)

T-Shirt Transfers can be used to transfer a design onto cotton or polyester cotton-blend fabric. For detailed instructions about using this medium, refer to the instruction sheet provided with each packet of T-Shirt Transfers TR-201. T-Shirt Transfers are available in A4 or A3 sizes, but only the A4 size can be used with this printer.

Power supply

Canon Li-Ion Battery LB-50

A rechargeable, replaceable battery pack is installed inside the printer to power the printer without a mains supply. To recharge the battery pack, just connect the AC adapter. The battery pack will recharge while the printer is on or off.

Universal AC Adapter AD-360U

This universal adapter can be used to supply power to the printer from any power source and to recharge the battery pack. Use this AC adapter when travelling to countries where the AC power differs from your country. A power cord appropriate for your country comes with the universal adapter.

Available options

The following options are available for use with this printer. For details, contact your local Canon Authorised Dealer or Canon marketing representative.

Canon Auto Sheet Feeder ASF-50

This optional sheet feeder can be easily and quickly installed on the front of the printer and allows you to stack and feed more than one sheet at a time for multi-sheet print jobs.

Color Image Scanner Cartridge IS-12

Turns your printer into a colour scanner.

BJ Cartridge Storage Container SB-10

Use to store partially used BJ Cartridges.

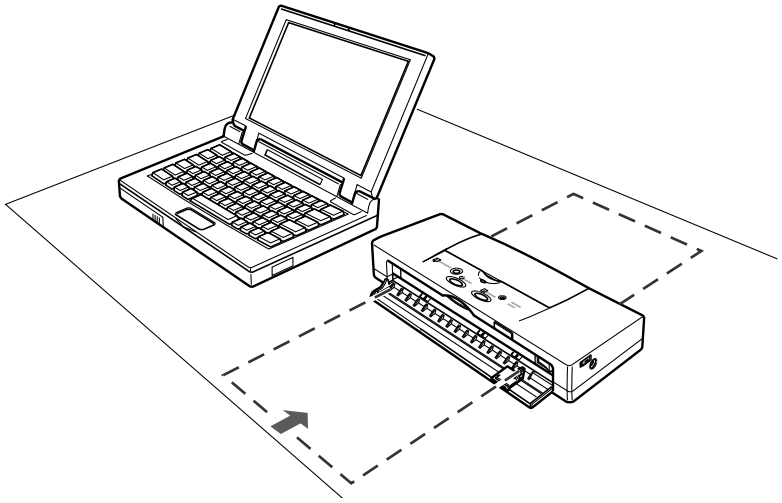
Chapter 2

Setting Up the Printer

This chapter describes how to set up the BJC-50. It offers guidelines on finding a suitable location for the printer, explains how to unpack the printer, and gives an overview of the printer's components. Even if you have already set up the printer by following the instructions in the *Quick Start Guide*, read this section to become familiar with the parts of the printer and how to use them more efficiently.

Selecting a location for your printer

Carefully read the following instructions before setting up your printer in order to choose the best location.



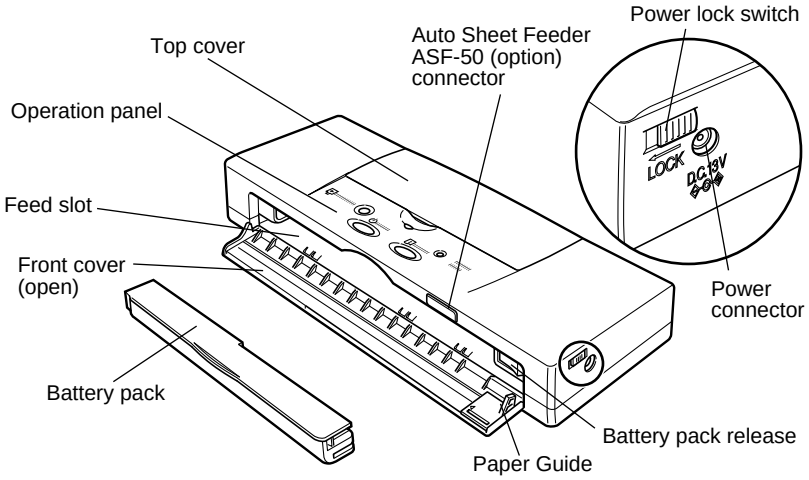
- Choose a flat, sturdy surface with enough space to feed paper into the front of the printer and to handle paper output at the back of the printer.
- Avoid excessive heat or humidity, and avoid direct sunlight. Place the printer where the temperature is stable and comfortable.
- Do not leave the printer in a vehicle, where it may be exposed to extremely high temperatures.

- Do not install the printer near devices which contain magnets or generate magnetic fields.
- Do not subject the printer to strong physical shock or vibration.
- Keep the printer clean. Dust accumulation can prevent proper functioning of the printer.
- Do not place objects on the top of the printer.
- The top cover and front cover should be closed when the printer is not being used.

Examining the printer

Familiarise yourself with the printer's parts and functions as described below.

Front view



Top cover

Covers the paper and BJ Cartridge during printing. The top cover should remain closed unless you are changing BJ Cartridges or replacing an ink cartridge.

Operation panel
Allows you to operate some functions.

Auto Sheet Feeder ASF-50 connector
Connects the optional Auto Sheet Feeder ASF-50 to the printer.

Power connector
Connects the printer to the AC adapter.

Power lock switch
After the power lock switch is slid to the right, you can press the **POWER** button to switch the printer on and off. After the power lock switch is slid to the left, you cannot switch the printer on, even if you press the **POWER** button. This prevents the printer from being switched on accidentally while it is being transported. Before transporting the printer, always slide the power lock switch to the left. Otherwise, leave the power lock switch at the right position so you can operate the **POWER** button normally to switch the printer on and off.

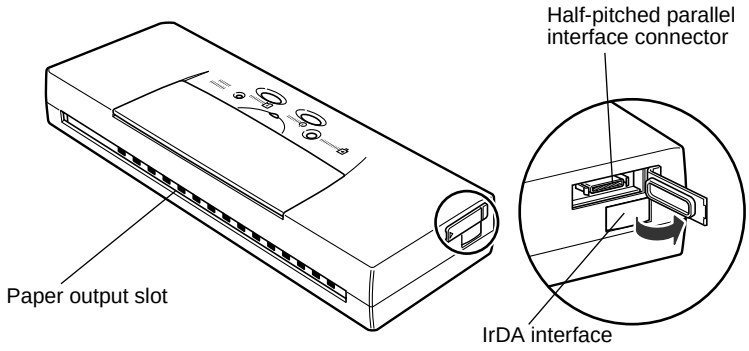
Battery pack
The Canon Li-Ion Battery LB-50 provides power to the printer when the AC adapter is not connected. When the AC adapter is connected, the printer is powered from the AC adapter. When the battery pack requires recharging, the **CHARGE/ERROR** lamp will start flashing green. To recharge the battery pack, connect the AC adapter to the printer and to a power outlet. When the battery pack is fully charged, the **CHARGE/ERROR** lamp will go off.

Battery pack release
Push to the right to release the battery pack so you can remove it. Do not remove the battery pack unless you are going to store the printer for a prolonged period (three months or more).

Front cover
When closed, covers the battery pack. Folds down so you can feed paper and other media to the printer. Open the front cover only when you are feeding paper or other media into the printer.

Feed slot
Allows you to feed one sheet of paper or other media for printing. Always align the left edge of the sheet with the left side of the feed slot.

Rear view



Paper output slot

Ejects paper after it is printed. Place the printer on a flat clean surface with enough space to support printed sheets as they are ejected.

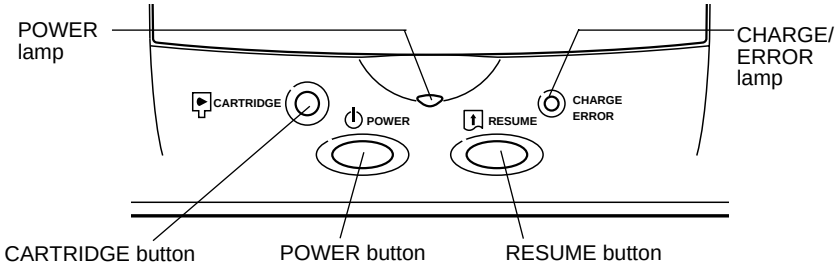
Parallel interface connector

Connects the printer to the computer via the Canon Printer Cable BIFC-50.

IrDA interface

Provides wireless connection between the printer and a computer equipped with an IrDA interface.

Operation panel



CARTRIDGE button

Press to move the cartridge holder to the centre for switching BJ Cartridges or replacing ink cartridges.

POWER button

Press to switch the printer on and off. You can also use the **POWER** button to start test prints by holding down the **POWER** button after you switch the printer on. Count the number of beeps then release to select the type of test print you want to perform. (☞45)

POWER lamp

Flashes for a few moments after power on and then lights and stays on to indicate that the printer is ready for normal operation.

The **POWER** lamp flashes in the following situations:

- During print head cleaning after you switch the printer on. The print head is cleaned automatically every time you switch on the printer. When the **POWER** lamp stops flashing, print head cleaning is finished and the printer is ready for operation.
- During print head cleaning or flushing started from the operation panel with the **RESUME** button, from the Windows printer driver.
- When the last page of a print job does not print.
- While you are performing routine print head maintenance such as replacing an ink cartridge, replacing a BJ Cartridge, changing BJ Cartridges, or replacing the BJ Cartridge with the Color Image Scanner Cartridge IS-12.

RESUME button

Press to cancel errors and warnings. The **RESUME** button also performs these important functions:

- **Error recovery**. After an error occurs, press once to return the printer to the normal operation mode.
- **Paper Feed.** If the **POWER** lamp is flashing to signal that data remains to be printed, insert a sheet of paper in the printer and press **RESUME** once to print the remaining page of data.

Do not press the RESUME button when there is no paper in the feed slot.

- **Print head cleaning**. Press and hold down the **RESUME** button for two seconds until the printer beeps twice then release to start print head cleaning. The **POWER** lamp flashes during print head cleaning. (☞80)

- **Print head flushing**. Press and hold down the **RESUME** button for over two seconds until the printer beeps three times then release to start print head flushing. The **POWER** lamp flashes during print head flushing. (☞80)

CHARGE/ERROR lamp

When the printer is off and the AC adapter is connected to the printer and plugged into the power mains, the **CHARGE/ERROR** lamp lights and stays on while the battery pack inside the printer is recharging. After the battery pack is fully charged, this lamp will go off.

When the printer is on, the **CHARGE/ERROR** lamp lights or flashes orange when an error occurs. Remove the cause of the error then press **RESUME** to resume normal operation. The first time you switch on the printer, the empty cartridge holder will move to the centre. The **CHARGE/ERROR** lamp will flash once and the printer will beep to remind you to install a BJ Cartridge.

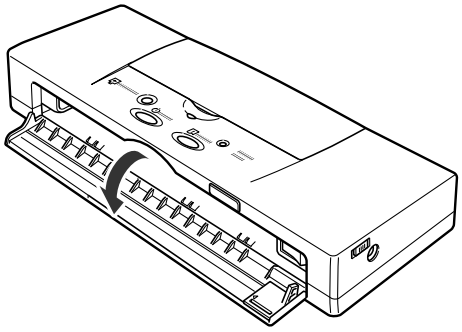
Installing the battery pack

Follow this procedure to install the battery pack in the printer.

Note

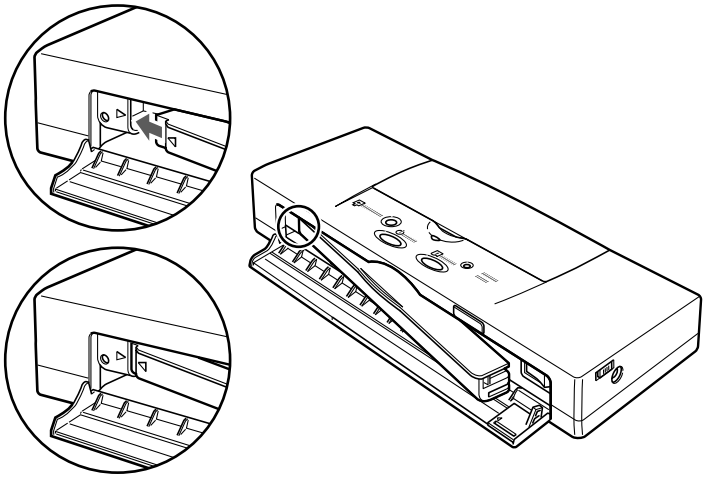
Install only a Canon Li-Ion Battery LB-50 battery pack. You must install the battery pack and leave it installed in the printer, even if you intend to use the printer only with the AC adapter. If the battery pack is not installed when you switch on the printer, the CHARGE/ERROR lamp will light orange and the printer will beep six times.

1. Open the front cover.

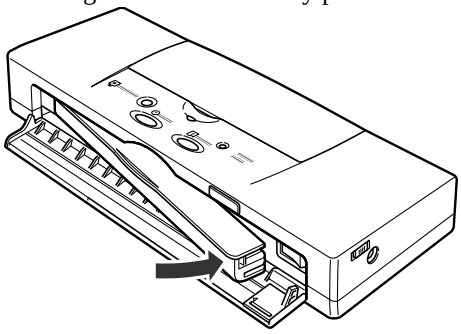


2. If you are installing a new battery pack, remove the battery pack from its package.

3. Align the mark on the printer (▷) with the mark on the battery pack (◁) and insert the left end of the battery pack into the printer at a slight angle.



4. Push in on the right side of the battery pack to lock it in place.



5. Close the front cover.

Caution

FOLLOW THESE GUIDELINES WHEN STORING AND HANDLING THE BATTERY PACK:

- A battery pack is not charged when purchased. You must charge the battery pack for about 4 to 6 hours for it to reach full charge.
- For best results, use the battery pack at room temperature. At low temperatures the capacity of the battery pack is diminished and it will print fewer sheets between recharging sessions.
- Never attempt to recharge the battery pack with any device other than the Universal AC Adapter AD-360U supplied with this printer.
- To avoid personal injury from an explosion, never expose the battery pack to an open flame and never attempt to incinerate an old battery pack.
- Used battery packs should be disposed of according to environmental regulations in your country. For details, contact your Canon Authorised Dealer or Canon representative.
- To avoid damaging the contacts on the corner of the battery pack, avoid touching them with any metal object like a tool, jewellery, the surface of a metal table, etc. Damaged contacts could cause leaking and serious burns.
- To avoid personal injury from corrosive liquids, never attempt to disassemble the battery pack.
- If any liquid from a leaking or broken battery pack gets into your eyes, flush your eyes immediately with clean water and contact a physician.
- Never attempt to connect the battery pack directly to mains (house) current or to a cigarette lighter socket in an automobile.
- Never attempt to use this battery pack for any purpose other than as a power source for this printer.
- Never store a battery pack in a location above room temperature.
- Remove the battery pack immediately and contact your Canon Authorised Dealer or Canon Representative if the battery pack shows any signs of warping, releasing a strange odour, leaking fluid, or overheating. However, do not be concerned if the battery pack feels slightly warm during recharging; this is perfectly normal.
- If you intend to store the printer for a prolonged period (3 months or more), remove the battery pack. Store the printer and battery pack in a dust-free location away from direct sunlight.
- Always handle the battery pack with care to avoid dropping it and damaging its casing and contacts.

Connecting the printer to your computer

This printer is equipped with two interfaces. In addition to a parallel interface, the printer also has a built-in IrDA interface for wireless connection to a host computer equipped with an IrDA interface.

Connecting the parallel interface

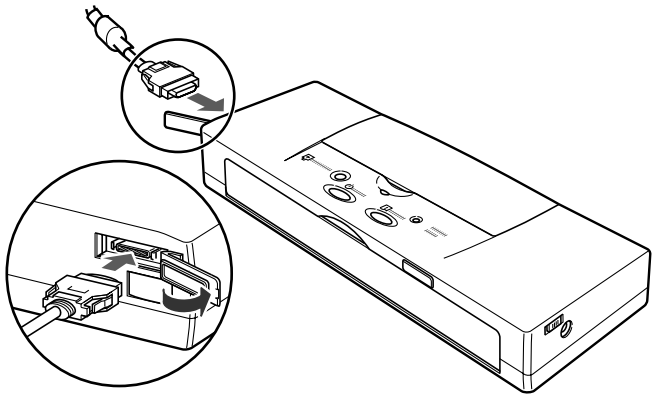
A parallel interface port is provided for connection to IBM compatible PC computers.

Follow the procedure below to connect the printer to the host computer with the BIFC-50 printer cable.

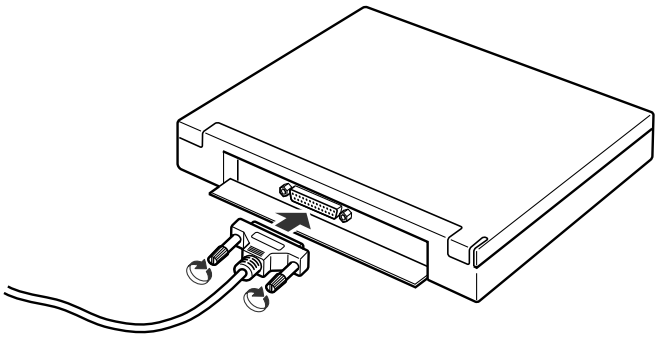
Note

To connect this printer to a computer via the parallel interface ports, you must use the Canon Printer Cable BIFC-50 provided with this printer.

1. Make sure the printer and computer are switched off.
2. Connect the small end of the BIFC-50 printer cable to the parallel interface connector on the left side of the printer. Carefully match the shape of the small D-connectors ( ) on the end of the cable with the connector on the printer then push gently to connect the cable to the printer.



3. Connect the large end of the BIFC-50 printer cable to the back of the computer. Turn the screws on both sides of the connector to fasten it securely.



Setting up the IrDA wireless interface

This printer is equipped with an IrDA 1.0 compatible infra-red wireless communication interface port (115.2 kbps). The IrDA interface is very popular among notebook or laptop computer users because no cable connection between the printer and computer is required.

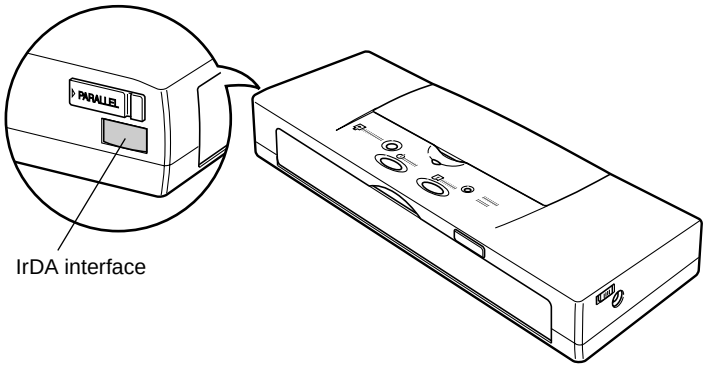
In order to use the IrDA wireless interface, your computer must be equipped with an IrDA interface and have an Microsoft IR Comm Driver (infra-red driver) Ver. 2.0 for Windows 95 installed. For other reguirements, please see Appendix E.

Note

Even if your computer has an IrDA interface port, you still may not be able to use the Microsoft IR Comm Driver Ver. 2.0. To determine whether your computer IrDA interface supports Microsoft IR Comm Driver Ver. 2.0, contact the Help Desk of your computer manufacturer.

Follow this procedure to set up the printer for data transfer via the IrDA interface

1. The printer IrDA interface is on the left side of the printer, below the parallel interface connector.

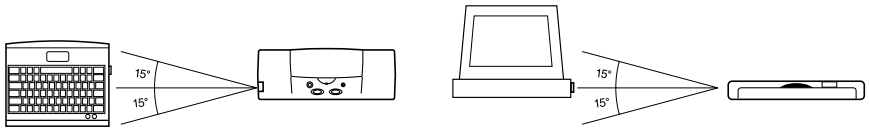


2. Locate the IrDA interface on the computer. Arrange the printer so the IrDA interface ports are facing one another.

Note

The IrDA interface ports must face one another and be approximately level, within a range of 15 degrees left or right, 15 degrees up or down and not more than 1 metre (3 ft.) apart.*

*May vary depending on the specific computer, PDA, and communication protocol used.



The following conditions may reduce the reception range of the IrDA interface.

- If another IrDA device is attached.
- If another infra-red device, like a set of wireless headphones or a remote controller, for example, is broadcasting in the same area.
- If the IrDA port is exposed to sunlight, fluorescent light, or any other strong light source like a large torch.
- If the IrDA port is not clean. Clean it with a soft, dry cloth if the port is smudged or dirty.

3. Make sure the computer is set up for IrDA operation.

To use IrDA successfully, make sure the following conditions are satisfied:

- You must use Windows 95.
- Make sure the infra-red driver Microsoft IR Comm Driver Ver. 2.0 has been installed.
- Make sure a COM port has been selected for IrDA with the Printer Wizard. Allocation of a port for an IrDA wireless interface may depend on the computer you are using. Usually COM4 can be selected as an external serial (COM) communications port. For details about how your system configuration, refer to your computer manual.
- Make sure the BJC-50 is selected as the default printer with the BJC-50 printer driver.
- Only the Microsoft IR Comm Driver Ver. 2.0 can be used as the IrDA driver for the BJC-50. Other IrDA drivers cannot be used.
- The IrDA interface cannot detect the printer status and reset the printer. If communication between the printer and computer is interrupted and the print job is stopped, the printer is initialised automatically. (The buffer memory of the printer is cleared and the paper is ejected.)

Attaching the AC adapter

Read the following precautions before attaching the AC adapter.

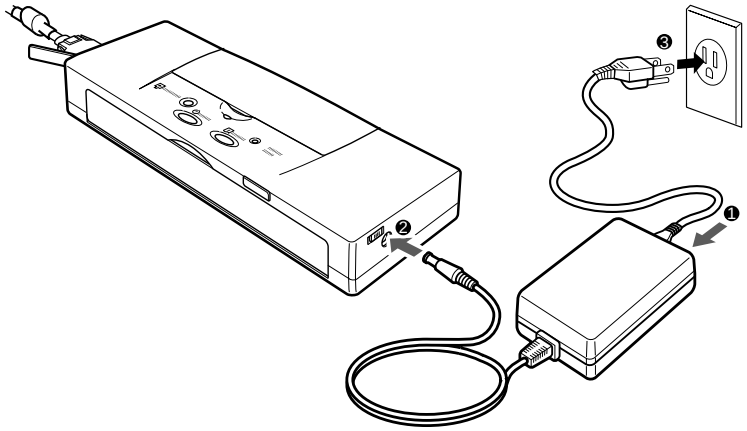
Use only the Universal AC Adapter AD-360U supplied with the printer.

- Always use the AC adapter indoors, never outdoors.
- In case of trouble (smoke, odd smells, etc.), unplug the AC adapter immediately.
- Do not place anything in front of your power outlet that may obstruct your access to the power supply or put pressure on the AC adapter or its cord.
- When unplugging the AC adapter, always remove it by pulling the connector, never by pulling the cord.
- Do not unplug the AC adapter until you have switched off the printer. After you switch off the printer if the **CHARGE/ERROR** lamp flashes green, this means the battery pack power is low. Leave the AC adapter connected to the printer and plugged into a power outlet so the battery pack can be recharged. While the battery pack is charging, the **CHARGE/ERROR** lamp lights and remains on until the battery pack is fully charged. (The time required for recharging is four to six hours.) When the **CHARGE/ERROR** lamp goes off, the battery pack is fully charged.

USE ONLY THE AC ADAPTER SUPPLIED WITH THE PRINTER. DO NOT USE AC ADAPTERS FOR OTHER CANON BJ PRINTERS OR ADAPTERS INTENDED FOR USE WITH OTHER ELECTRONIC DEVICES.

To connect the AC adapter

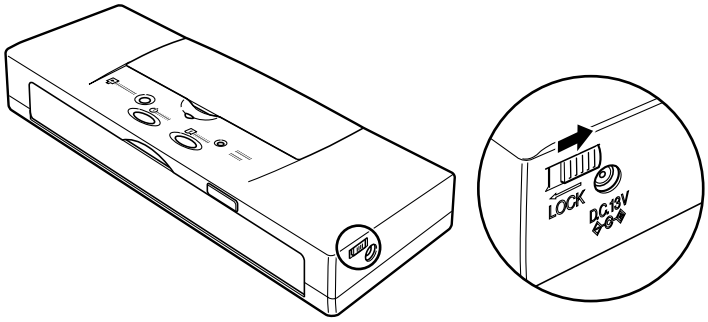
1. Connect the power cord ❶ to the AC adapter.
2. Insert the DC plug ❷ into the printer.
3. Insert the power cord ❸ into a power source.



- If the printer is not switched on and the battery requires recharging, the **CHARGE/ERROR** lamp will light green and remain on to indicate that the battery pack is recharging.
- To recharge the battery pack, switch off the printer and connect the AC adapter if it is not already connected. When the battery pack is fully charged, the **CHARGE/ERROR** lamp will go off. (☞62)

Switching the printer on and off

1. Before you switch the printer on, check the power lock switch on the right side of the printer. If the power lock switch is in the left position, slide it to the right.



Note

When the power lock switch is in the left position, it locks the power switch off so it cannot be switched on accidentally during transportation.

2. To switch the printer on, press the **POWER** button.

3. To switch the printer off, press the **POWER** button.

Note

The printer has an energy saving Auto Power Off feature which will power off the printer automatically if the printer remains idle for 30 minutes. To turn this feature off, or to set the idle time interval, open the printer driver and adjust these settings on the Control tab.

Installing the BJ Cartridge

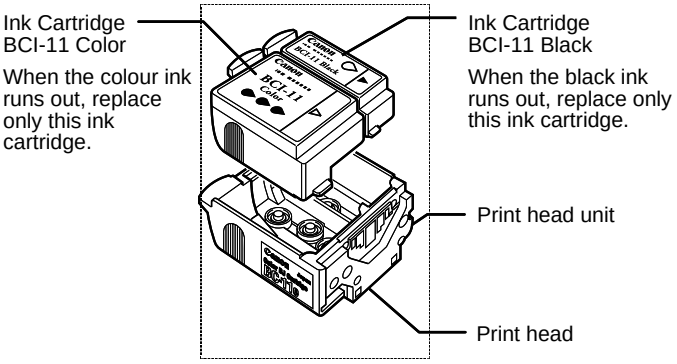
This printer is shipped with a colour and black BJ Cartridge one of which must be installed before you can use the printer. Each BJ Cartridge contains removable ink cartridges and a print head unit which releases the ink.

The Color BJ Cartridge BC-11e is mainly for colour printing and the Black BJ Cartridge BC-10 is for monochrome printing. Select the cartridge based on your print job (colour or monochrome).

Choosing which BJ Cartridge to use

Color BJ Cartridge BC-11e

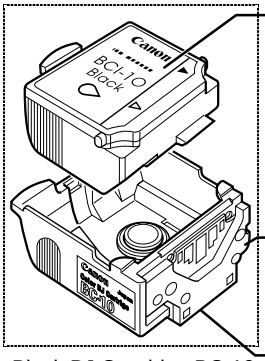
Use this cartridge for printing in colour. Use the BC-11e whenever you want to produce brilliant colour output. Do not waste the black ink cartridge of this colour BJ Cartridge by printing drafts of black-and-white text documents. Use the colour BJ Cartridge only for printing colour.


Ink Cartridge BCI-11 Color
When the colour ink runs out, replace only this ink cartridge.
Ink Cartridge BCI-11 Black
When the black ink runs out, replace only this ink cartridge.
Print head unit
Print head

Color BJ Cartridge BC-11e

Black BJ Cartridge BC-10

Use this cartridge for printing in black and white for draft output. When the BC-10 is installed your output will print faster. The BC-10 is also more cost effective for monochrome printing because it can print more pages per cartridge than the BC-11e.



Ink Cartridge
BCI-10 Black

When the black ink runs out, replace only this ink cartridge.

Print head unit

Print head

Black BJ Cartridge BC-10

BJ Cartridge guidelines

Canon manufactures several types of BJ Cartridges, but you must use only the BJ Cartridges designed for this printer. To ensure the best performance with the BJC-50, use only Canon Color BJ Cartridge BC-11e or Canon Black BJ Cartridge BC-10. Canon cannot guarantee your print quality if you use any other type of BJ Cartridge.

To avoid drying out the ink, clogging the print head, or ink leakage, follow these simple precautions:

- Do not unpack a BJ Cartridge until you are ready to use it.
- Keep the BJ Cartridge out of the reach of children. If spilled, the ink is difficult to clean.
- Install the BJ Cartridge in the printer immediately after removing the protective cap and protective tape.
- Never shake a BJ Cartridge.
- Never attempt to disassemble a BJ Cartridge.
- Never place a BJ Cartridge on a table with the print head facing down.
- The BJ Cartridge must be installed in the printer or be stored in the BJ Cartridge Storage Container SB-10. If the print head is left uncapped, the print head may dry out.

BJ Cartridge installation

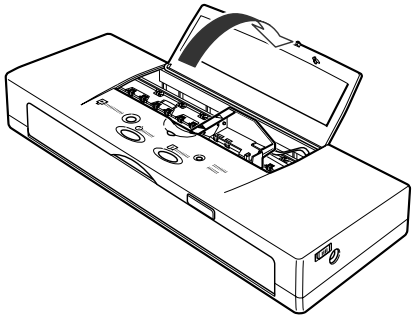
1. Make sure the AC adapter is connected and the battery pack is installed.

2. Press the **POWER** button.

Note

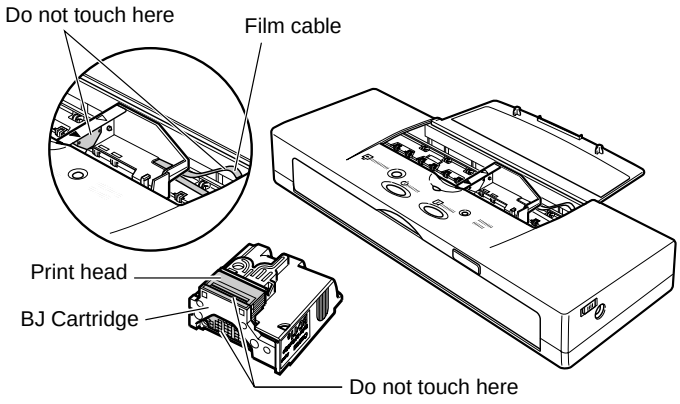
When you switch the printer on, the printer beeps three times and the cartridge holder moves to the centre if a BJ Cartridge is not installed.

3. Raise the top cover.

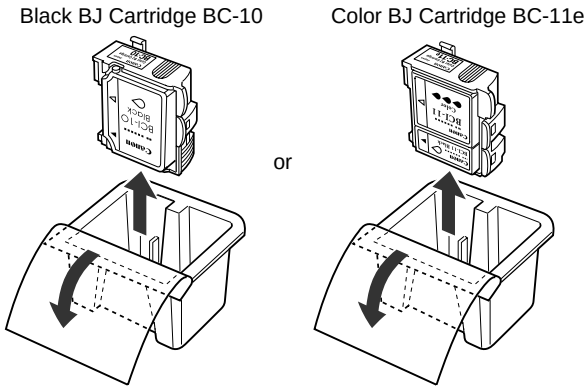


Note

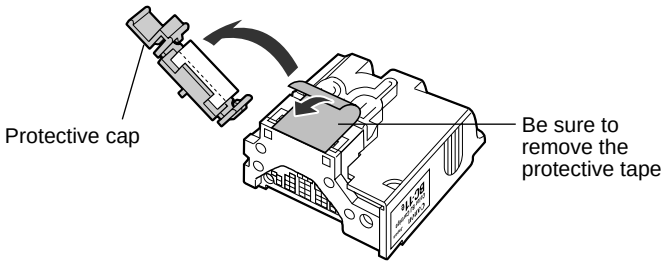
- Never move the cartridge holder to the centre by pulling the film cable. Never touch the interior of the empty cartridge holder, the terminal of the print head unit, the print head itself, or the film cable when installing the BJ Cartridge (shaded portions).
- When the top cover is open, never touch the orange film cable inside the printer.



4. Remove the BJ Cartridge from its protective packaging.



5. Remove the orange protective cap from the print head and then remove the orange protective tape.



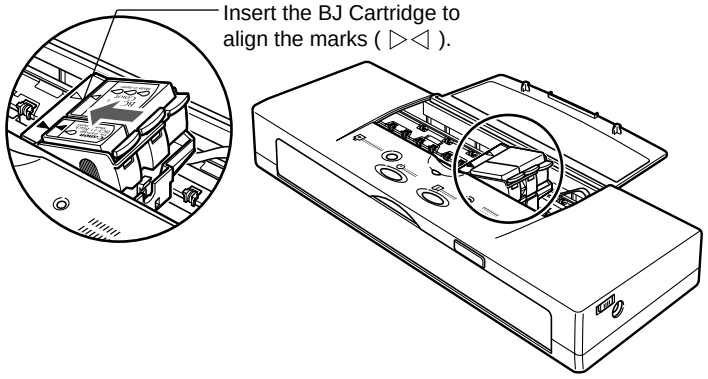
Note

To avoid staining your clothing or articles in your work area, do not drop or shake the BJ Cartridge. The ink in the BJ Cartridge can stain fabric permanently.

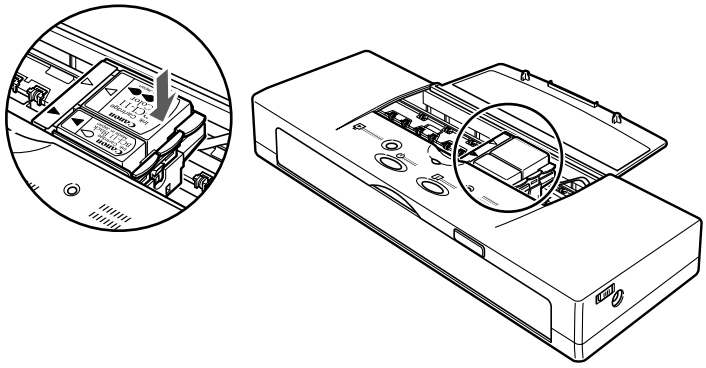
6. Point the print head down, and insert the BJ Cartridge as shown below. Align the marks on the BJ Cartridge with the cartridge holder (yellow-yellow, black-black).

Note

This illustration shows the installation of the Color BJ Cartridge BC-11e.

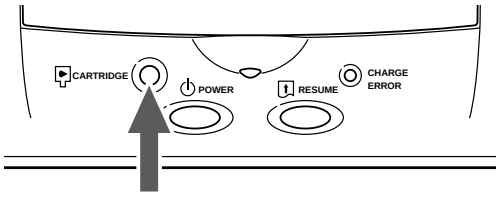


7. Press down gently on the high side of the BJ Cartridge until it snaps in place.



8. Close the top cover.

9. Wait about three seconds and press the **CARTRIDGE** button once.



After the BJ Cartridge is installed, the printer requires at least two seconds to detect the presence of the BJ Cartridge then the cartridge holder will move to the home position.

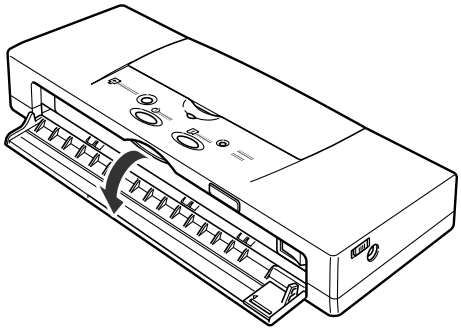
Note

Always press the CARTRIDGE button to move the cartridge holder to the home position. If you fail to press CARTRIDGE button and the cartridge holder stays in the centre, after five minutes the buzzer beeps three times and the cartridge holder automatically returns to the home position to prevent the print head from drying out.

Performing a test print

To check the printer installation, print a Demonstration. This and other test prints are described in detail in Chapter 4. (☞45)

1. Open the front cover of the printer.



2. Select one sheet of plain A4 or Letter size paper.

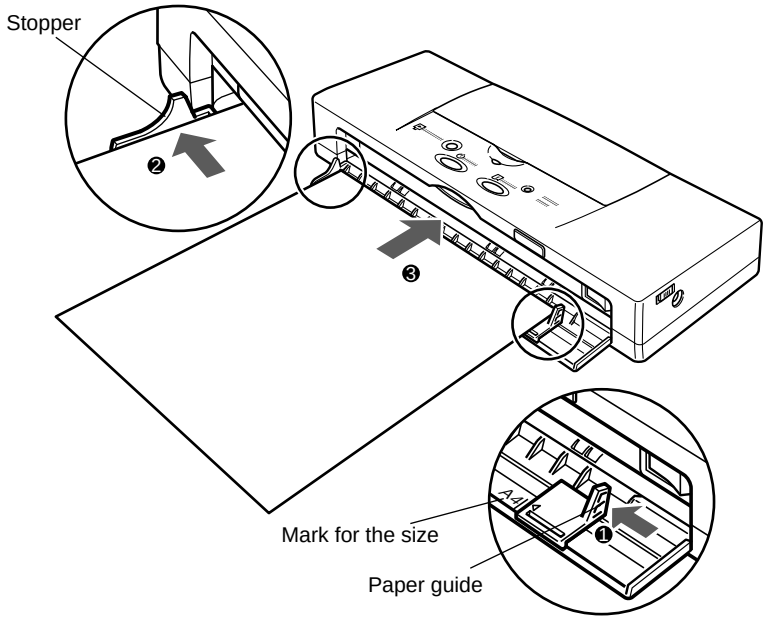
Note

To avoid fouling the platen with wet ink, never attempt to perform a test print on paper smaller than A4 or Letter size. You can print on either side of plain paper.

3. Press and hold down the **POWER** button until you hear one beep and release it.

4. Slide the paper guide ❶ to the mark for the size of the media you are loading.

5. Hold the sheet with the print side up and align the left edge of the sheet with the stopper ❷ on the left side of the front cover.

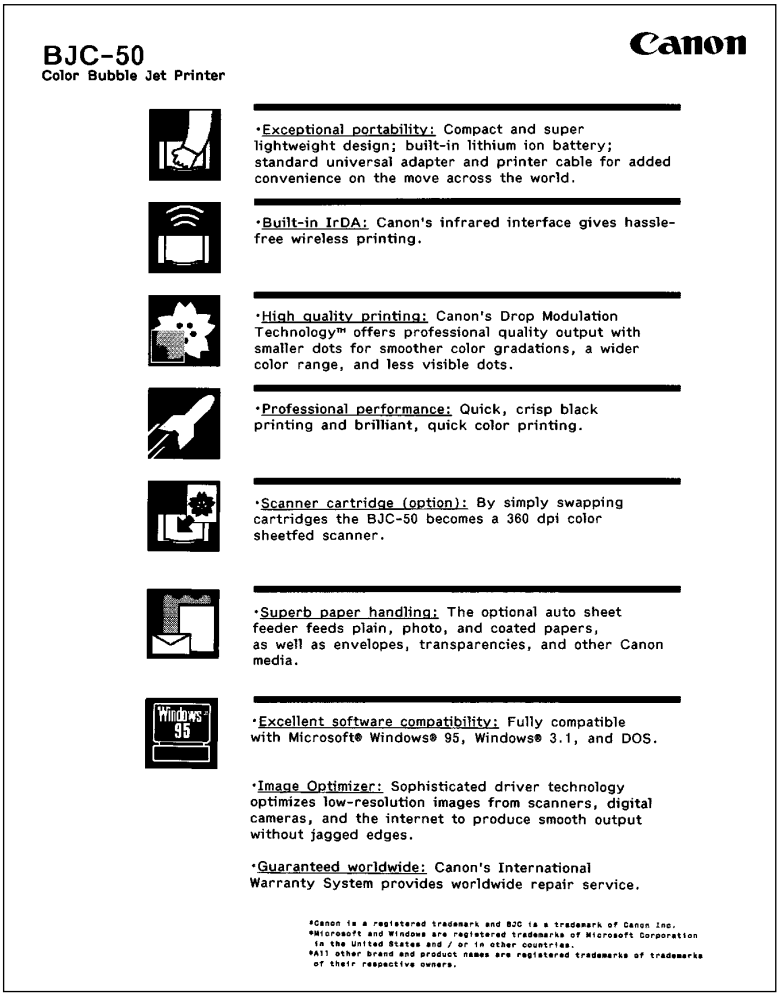


6. Insert the paper straight into the printer ❸ (about 5 cm) until it stops. Push the sheet in slightly and hold it in place for about two seconds. The sheet will feed partially into the printer.

Note

If the sheet is too narrow (less than 100 mm), or if the sheet is inserted diagonally, the buzzer will beep once, the CHARGE/ERROR lamp will light orange, and the printer will eject the paper from the feed slot. After the sheet is inserted again correctly, the printer will reverse feed it slightly and the buzzer will not beep. If POWER lamp is flashing, data remains to be printed. Press the RESUME button to finish the print job.

7. Press the **RESUME** button. The **CHARGE/ERROR** lamp goes off and printing starts.



BJC-50
Color Bubble Jet Printer

Canon

•Exceptional portability: Compact and super lightweight design; built-in lithium ion battery; standard universal adapter and printer cable for added convenience on the move across the world.

•Built-in IrDA: Canon's infrared interface gives hassle-free wireless printing.

•High quality printing: Canon's Drop Modulation Technology™ offers professional quality output with smaller dots for smoother color gradations, a wider color range, and less visible dots.

•Professional performance: Quick, crisp black printing and brilliant, quick color printing.

•Scanner cartridge (option): By simply swapping cartridges the BJC-50 becomes a 360 dpi color sheetfed scanner.

•Superb paper handling: The optional auto sheet feeder feeds plain, photo, and coated papers, as well as envelopes, transparencies, and other Canon media.

•Excellent software compatibility: Fully compatible with Microsoft® Windows® 95, Windows® 3.1, and DOS.

•Image Optimizer: Sophisticated driver technology optimizes low-resolution images from scanners, digital cameras, and the internet to produce smooth output without jagged edges.

•Guaranteed worldwide: Canon's International Warranty System provides worldwide repair service.

*Canon is a registered trademark and BJC is a trademark of Canon Inc.
*Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and / or in other countries.
*All other brand and product names are registered trademarks of trademarks of their respective owners.

The above sample was printed with the Black BJ Cartridge BC-10.

Installing and using printer drivers

In order to use the BJC-50, you must install the correct printer driver on your computer. This section explains the printer drivers and gives you some hints on DOS driver selection.

Installing a printer driver for Windows 98/Windows 95/Windows 3.1

Printer drivers for both Windows 98/Windows 95 and Windows 3.1 are provided with the printer. For installation instructions, see the *Quick Start Guide* or the *Windows Print Guide*.

Note these two potential problems with the printer driver settings:

- If a WPS printer driver has been installed, printing may not execute normally. If experience difficulty printing, remove the WPS driver or reassign the WPS driver port to FILE.

Installing a printer driver for DOS applications

To use the printer with a software application running under DOS, you must select and install a compatible driver using the software application's setup or installation procedure. After you select a compatible driver, you should be able to use all the features of the printer.

With some software applications, you may have to send control codes directly from the computer to the printer. In this case, see Appendix C for a complete list of printer command codes.

Selecting a DOS printer driver from your software application

Most DOS software applications include an installation or setup procedure that you must perform in order to install a printer driver. During this procedure you are asked to select the appropriate driver from a list of drivers provided with the software application. Even if you do not see a driver for the BJC-50, and this will be the case for older programs, you can still use the BJC-50 printer if you select a compatible driver. To allow you to do this, the BJC-50 can operate in two modes.

- BJ mode: Emulates an IBM Proprinter X24E series printer.
- LQ mode: Emulates an Epson LQ-2550 series printer.

Some of these drivers may not allow you to take advantage of all the BJC-50 printer features.

Here is a list of compatible printer drivers, listed in order of preference.

Priority	Printer Name	Printer Control Mode	Remark
1	BJC-50	BJ or LQ	
2	BJC-80	BJ or LQ	
3	BJC-70	BJ or LQ	
4	Canon Colour BJ Printer	BJ or LQ	
5	Epson LQ-2550	LQ	
6	Epson LQ printer	LQ	
7	IBM Proprinter X24E	BJ	Black & white only
8	IBM printer	BJ	Black & white only

Note that there are restrictions on the availability of font typefaces, print styles, and character sets, depending on whether you are using the BJ or LQ mode.

Feature		BJ	LQ
Font Typeface	15 cpi, 20 cpi	No	Yes
Print Style	Italic	No	Yes
	Slash zero	Yes	No
Character Set	Italic Set	No	Yes
	Graphics Set	No	Yes
	International Set	No	Yes

Chapter 3

Paper Handling

This chapter describes how to load plain paper and special media in the printer. To get the best performance from your printer, use the media most appropriate for the task and make sure that you follow these instructions to load it correctly.

Selecting paper types

One of the most important things you can do to ensure the best possible performance from your printer is to select the correct print media. Your printer produces letter-quality print on most plain paper, including cotton bond and photocopier paper, and does not require special ink jet paper. However, the print quality varies with different paper types, especially with colour printing. Plain paper should be fully tested before large quantities are purchased. Your printer accepts either plain paper or the special media as described below.

Plain paper

Paper fed to the printer must be free of curls, folds, and damaged edges. The printer can accept A4, A5, B5, Letter and Legal size sheets in portrait orientation. Paper thickness should be in the range 64 to 105 gsm. Paper must be fed to the printer one sheet at a time unless you have installed the optional sheet feeder. Canon produces Bubble Jet Paper LC-301, a plain paper designed specially for Canon Bubble Jet printers.

This printer meets the standards for using recycled paper. The BJC-50 produces excellent printouts on recycled paper.

Special media

Several special media have been designed for use with the BJC-50 and other Canon Bubble Jet printers. When you handle special media other than plain paper (e.g. Coated Paper), follow these guidelines:

- Store the media in its original package until you are ready to use it. Exposing media to direct sunlight or air may lower the print quality.
- Avoid high temperature and high humidity. Store media in a comfortable environment that is not subject to wide changes in temperature or humidity.
- Before using the media, always read the precautions and additional instructions printed on the package or in the instructions provided with the packet. Special media like Fabric Sheet FS-101 and T-Shirt Transfer TR-201 (TR-101 in the U.S.) require special handling after printing. Detailed instructions are provided with purchase of these media.
- When using High Resolution Paper HR-101, do not use the cleaning sheet supplied with the packet. The cleaning sheet will not feed smoothly through the BJC-50.
- When printing on Glossy photo Cards FM-101, feed the cards using the optional Auto Sheet Feeder ASF-50.

Envelopes

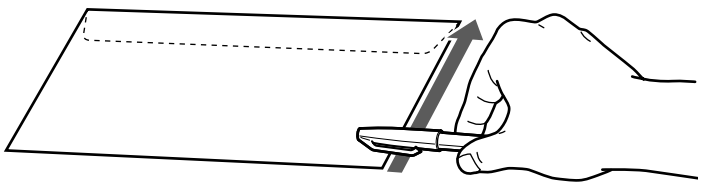
You can print addresses on envelopes of two common standard sizes:

- European DL size (220 x 110 mm).
- U.S. Commercial 10 (241 x 105 mm (9.5 x 4.1 inches)).

Note

An envelope can be loaded horizontally or vertically for printing. Envelopes, like other media, must be loaded one at a time.

If an envelope will not advance, use the top of a biro or pen to sharpen the crease of the right edge of the envelope.



The following envelopes cannot be used:

- Envelopes with windows, holes, perforations, cutouts, and double flaps.
- Envelopes made with special coated paper or deeply embossed paper.
- Envelopes using peel-off sealing strips.
- Envelopes in which letters have already been enclosed.
- Warped envelopes or envelopes that have been folded.

Loading paper and other media

Paper and other media must be loaded one sheet at a time.

Before you attempt to load single sheets of paper or other media into the feed slot on the front of the printer, make sure the battery pack is installed. If the battery pack is not installed, you may experience problems feeding paper or other media into the front feed slot. Install the battery pack and leave it installed, even if you intend to use the printer only with the AC adapter.

Follow this procedure to load paper or other media one sheet at a time.

Before you load a sheet of paper or other media in the printer, make sure the computer is turned on. If you turn on the computer after the printer is loaded, the sheet will eject from the printer.

1. Open the printer driver for Windows 98, Windows 95 or Windows 3.1 so you can check the settings and make adjustments for the print job.

Make sure the printer driver has been installed for Windows 98, Windows 95, Windows 3.1, or your DOS software application.

To open the printer driver for Windows 98/Windows 95

- In your software application, pull down the File menu and select Print.
- Check the Name entry box. If BJC-50 is not displayed as the selected printer, click the down-arrow and select BJC-50 from the pull down list.

- With Canon BJC-50 displayed in the Name line, click the Properties button.
- The Paper and Graphics control sheets contain the settings for setting up a print job. For details, refer to the *Windows Print Guide*.
- On the Paper tab, check the Paper Feed setting and make sure that it is set for Manual Feed. If this setting is set for Auto Feeder, click Manual Feed.

To open the printer driver for Windows 3.1

- In your software application, pull down the Print Setup menu to open the Print Setup dialog.
- If the BJC-50 has not be set as the Default Printer, click the Specific Printer button, click the down-arrow in the entry box below the Specific Printer heading, and select BJC-50 from the pull-down list.
- Click the Options button.
- The Paper and Graphics tabs contain the settings for setting up a print job. For details, refer to the *Windows Print Guide*.
- On the Paper control sheet, check the Paper Feed setting and make sure that it is set for Manual Feed. If this setting is set for Auto Feeder, click Manual Feed.

To check the settings for a DOS application

- Open the DOS software application and start the print setup procedure so you can set or adjust the settings for the print job. For details, refer to your DOS software application instructions.

2. Make sure the printer driver and software application are set up for the media you are going to print on. On the Paper control sheet of the Windows printer driver, make sure the following items are set correctly:

- For Media Type, the type of media should be selected (Plain Paper, Coated Paper, Transparency, etc.).
- For Paper Size, the appropriate Size should be selected for the sheet you are loading (A4, Letter, etc.)
- For Orientation, make sure Portrait is selected.
- For Paper Feed, select Manual.
- For Graphics, you may want to click the Graphics tab to select a setting appropriate for the content of the image on the Graphics control sheet.
- For details, refer to the *Windows Print Guide* and the instructions you received with your print media packet.

3. Select one sheet of the media you want to load and hold the print side up at the edge of the feed slot.

You must determine the correct print side of the sheet, based on the type of media you are using. Refer to the table below.

Loading Table for Manual Feed

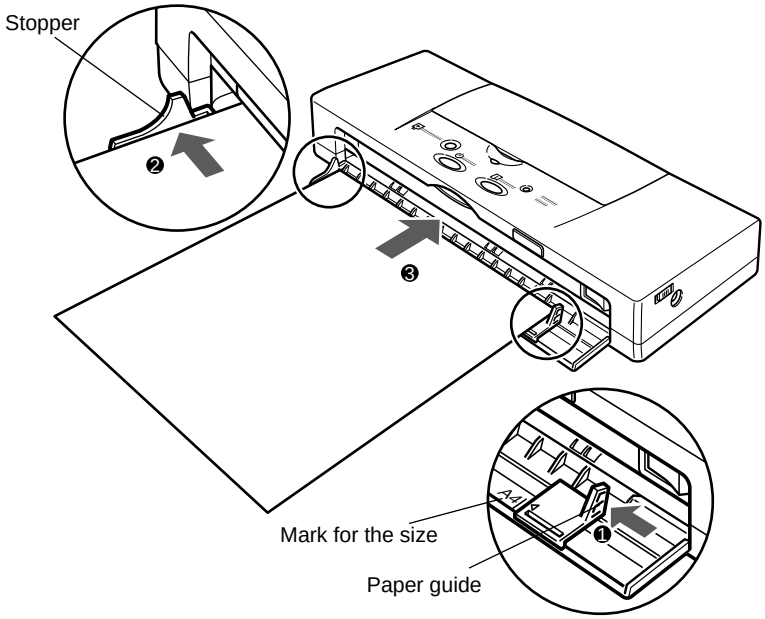
Name	Media Type	Print Side	Purpose
Plain paper	Plain Paper	Either side up	General purpose printing.
Bubble Jet Paper LC-301	Plain Paper	Either side up	All purpose paper for printing business letters, tables, graphs, charts, colour
presentations, etc. Glossy Photo Paper GP-301	Glossy Paper	Glossy side up	Produces superior results in printing photographic images.
High Resolution Paper HR-101	Coated Paper	Whiter side up	Produces vivid graphics and near-photo quality with photographic images.
Transparencies CF-102	Transparency	Either side up	Produces colour images for display with an overhead projector.
High Gloss Film HG-101	High Gloss Film	Glossy side up	Specially designed to reproduce photographic images in lustrous colours.
Back Print Film BF-102	Back Print Film	Matte side up	Special mylar-based translucent sheets for printing colour images to be projected with a backlighting device.
Fabric Sheet FS-101	Fabric Sheet	Cloth side up	Printable white, cotton fabric to produce your own embroidery designs, pillows, appliqués, and so on.

Name	Media Type	Print Side	Purpose
T-shirt Transfer TR-201 (TR-101 in the U.S.)	T-shirt Transfer	Side with green lines face down.	Print on the sheet then transfer the colour image to a cotton or polyester-cotton blend T-shirt with a hot iron.

Media Type: This is the name of the Media Type you will see after you pull down the list for Media Type on the Paper control sheet of the Windows printer driver.

4. Slide the paper guide ❶ to the mark for the size of the media you are loading.

5. Hold the sheet with the print side up and align the left edge of the sheet with the stopper ❷ on the left side of the front cover.



6. Insert the paper straight into the printer ❸ (about 5 cm) until it stops. Push the sheet in slightly and hold it in place for about two seconds. The sheet will feed partially into the printer.

If the sheet is too narrow (less than 100 mm), or if the sheet is inserted diagonally, the buzzer will beep once, the CHARGE/ERROR lamp will light orange, and the printer will eject the paper from the feed slot. After the sheet is inserted again correctly, the printer will reverse feed it slightly and the buzzer will not beep. If POWER lamp is flashing, data remains to be printed. Press the RESUME button to finish the print job.

7. Start the print job with your software application.

Chapter 4

Performing Test Prints

In this chapter we will show you how to perform all the test prints with the operation panel. These test prints can also be executed from the Windows printer driver.

Starting the test prints

Follow this general procedure to perform any test print.

To avoid fouling the platen with wet ink, never attempt to perform a test print on paper smaller than A4 or Letter size. You can print on either side of plain paper.

1. Check the table below and select the test you want to print.

Test Print	Number of Beeps	See page
Demonstration	1	47
Printer Settings	2	48
Ripple Pattern	3	48
Nozzle Check Pattern	4	49
Hex Dump Mode	5*	50
Font Sample	6	49

* The Hex Dump Mode is not a test print. This setting switches the printer to hexadecimal dump mode.

2. Switch off the printer by pressing the **POWER** button and wait for the print head unit to return to the home position.
3. Press and hold down the **POWER** button. Wait for the number of beeps required for the test print you want then release the **POWER** button. After you release the **POWER** button, the test print you selected starts to print.
4. Load the printer with A4 or Letter paper. (☞43)
5. Press the **RESUME** button. The **CHARGE/ERROR** lamp goes off and printing starts.

Samples and descriptions of each test print are provided on the following pages.

In addition to starting the test prints, you can also use the **POWER** button to change the printer default settings.

1. Press the **POWER** button to switch the printer off.
2. Press and hold down the **POWER** button and count the number of beeps. Release the **POWER** button when you hear the number of beeps for the defaults you want to set.

Default	Number of Beeps
LQ mode (USA)	7
BJ mode (USA)	8
LQ mode (Europe/Asia)	9
BJ mode (Europe)	10
BJ mode (UK/Asia)	11
No change	12

The following table lists the defaults for each setting.

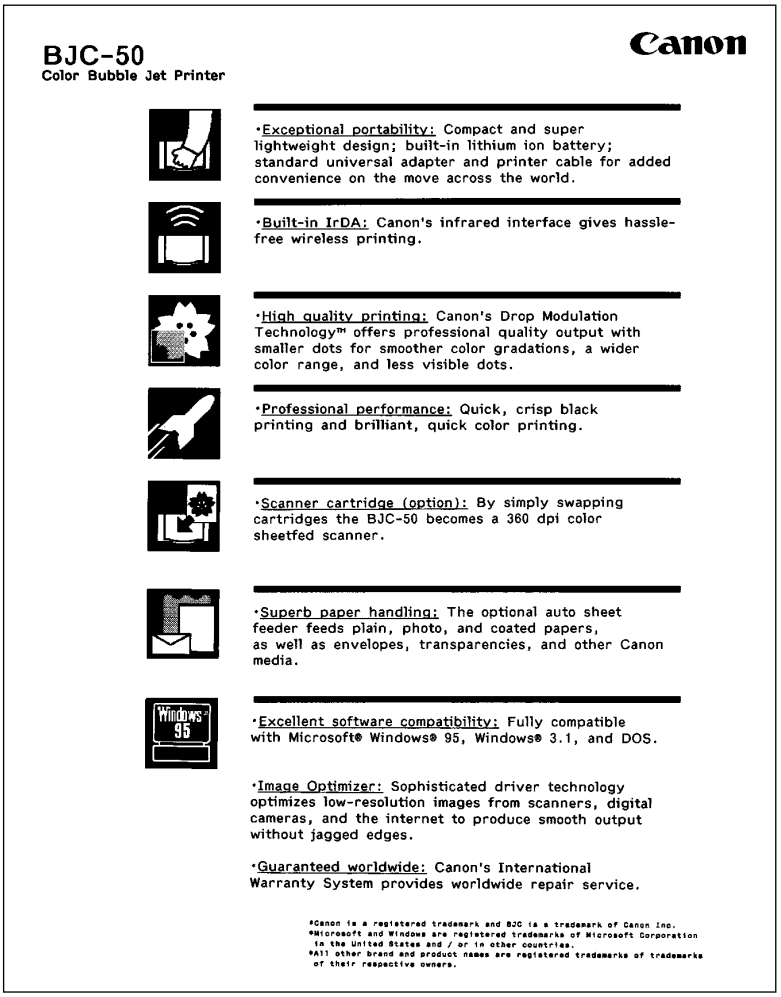
	USA-LQ	USA-BJ	Europe/Asia	Europe-BJ	UK/Asia-BJ
Print Control Mode	LQ	BJ	LQ	BJ	BJ
Paper Selection	LTR	LTR	A4	A4	A4
Print Mode	HQ	HQ	HQ	HQ	HQ
Reduction	1/1	1/1	1/1	1/1	1/1
Auto Power Off	ON	ON	ON	ON	ON
Font	Roman	Courier	Roman	Courier	Courier
Code Page	437	437	437	850	437
Page Length	23 inch	11 inch	23 inch	12 inch	12 inch
Character Set	Italic	Set 1	Italic	Set 1	Set 1
Text Scale	OFF	OFF	OFF	OFF	OFF
Auto Line Feed	CR	CR	CR	CR	CR
Auto Carriage Ret.	—	LF	—	LF	LF
Auto Graphics Mode	—	OFF	—	OFF	OFF
Intl. Chara. Set	USA	—	USA	—	—

HQ: High Quality.

Sample test prints

Demonstration

Provides an attractive demonstration of the printer's capabilities and describes some of the printer's important features.



BJC-50
Color Bubble Jet Printer

Canon

•Exceptional portability: Compact and super lightweight design; built-in lithium ion battery; standard universal adapter and printer cable for added convenience on the move across the world.

•Built-in IrDA: Canon's infrared interface gives hassle-free wireless printing.

•High quality printing: Canon's Drop Modulation Technology™ offers professional quality output with smaller dots for smoother color gradations, a wider color range, and less visible dots.

•Professional performance: Quick, crisp black printing and brilliant, quick color printing.

•Scanner cartridge (option): By simply swapping cartridges the BJC-50 becomes a 360 dpi color sheetfed scanner.

•Superb paper handling: The optional auto sheet feeder feeds plain, photo, and coated papers, as well as envelopes, transparencies, and other Canon media.

•Excellent software compatibility: Fully compatible with Microsoft® Windows® 95, Windows® 3.1, and DOS.

•Image Optimizer: Sophisticated driver technology optimizes low-resolution images from scanners, digital cameras, and the internet to produce smooth output without jagged edges.

•Guaranteed worldwide: Canon's International Warranty System provides worldwide repair service.

*Canon is a registered trademark and BJC is a trademark of Canon Inc.
*Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and / or in other countries.
*All other brand and product names are registered trademarks of trademarks of their respective owners.

Printer settings

Lists the current settings for the printer. If you are using the printer with DOS, this is a convenient way to check the settings for BJ Mode or LQ Mode emulation.

Status Information Sample

```
                LQ Mode INFORMATION of FUNCTION     Ver x.xxx

English
       Paper Selection                              A4
       Text Scale Mode                              Disabled
       Top Margin                                   8.5mm
       Print Mode                                   HQ
       Smoothing                                    Disabled
       Reduction                                    1/1
       Automatic Power Off                          Enabled
       Font                                         Roman
       Font Lock                                    Disabled
       Input/Download Buffer                        25KB/0KB
       Automatic Line Feed                          CR=CR
       International Character Set                  USA
       Character Set                                Italic Set
       Code Page                                    Code Page 437
       Automatic Emulation Switching                Disabled
       Low Ink Alert                                Disabled
       Installed Cartridge Type                     Black BJ Cartridge
```

Ripple pattern

The ripple pattern prints a stream of continuous characters from one edge of the printable area to the other. This test print confirms that the printer is printing uniformly over the entire page.

BJ Mode Ripple Pattern Sample

```
BJ Ver X.XXX FUNCTION1-1A   110000100000-0000100
 000021 - 000000002840
 000000 - 000000000381 000000000257 000000000257 000000000257

 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmno
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnop
"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopq
#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqr
$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrs
%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrst
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'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuv
()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvw
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,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{
-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|
```
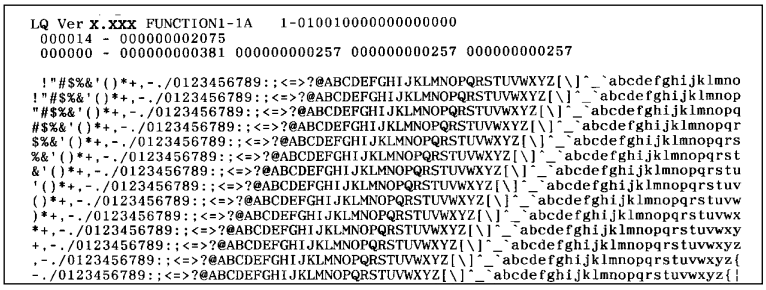

LQ Mode Ripple Pattern Sample



Nozzle Check Pattern

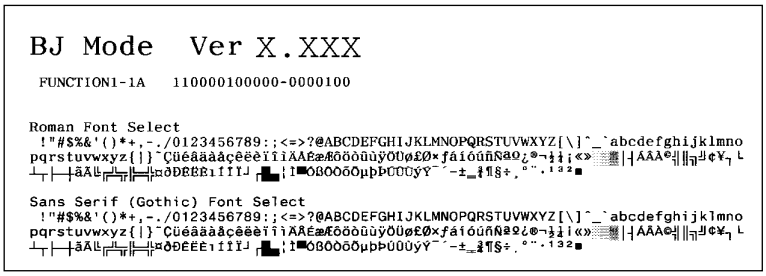
Prints a hatch pattern so you can check the performance of the print heads. If the print heads become clogged, the lines will appear broken or not complete. Normally, print head cleaning or print head flushing will correct print head performance. (☞80)

Font Sample

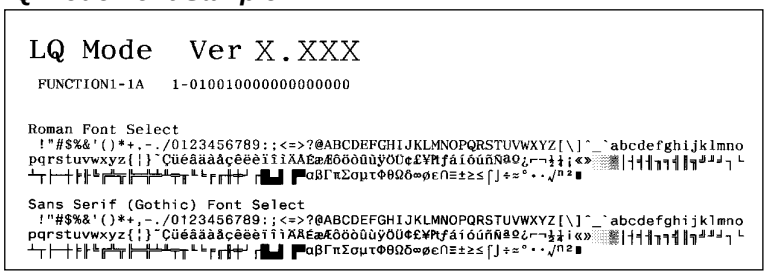
Prints a font sample. If you are using the printer with DOS, the font sample will print for the current emulation mode, BJ Mode or LQ Mode.

If you want to stop printing, press the **POWER** button. The printer switches off and the sheet is ejected.

BJ Mode Font Sample



LQ Mode Font Sample



Hexadecimal dump test

This printer has a hexadecimal dump function which prints out in hexadecimal form all data sent from the host computer. This function may be used to check data being sent to the printer.

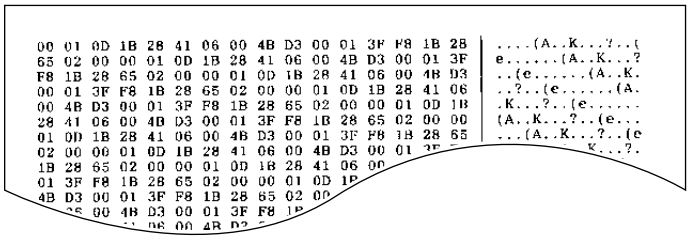
To turn on the hexadecimal dump mode

1. Switch the printer off and wait for the print head to return to the home position.
2. Press and hold down the **POWER** button. Wait for the printer to beep 5 times then release the **POWER** button.
3. Load the printer with a sheet of A4 or Letter size paper.
4. Send data to the printer. All data is printed in hexadecimal format.

To turn off the hexadecimal dump mode

Switch the printer off.

Hexadecimal Dump Sample



Chapter 5

Colour Printing and Black-and-White Printing

Switching between colour printing and black-and-white printing

Before switching between colour printing and black-and-white printing, you must adjust the settings with your software application and prepare your printer by installing an appropriate BJ Cartridge.

Printing with Windows

Changing printer driver settings

You can change the settings of the Canon BJC-50 Printer Driver from the Printer Setup dialogue box.

Setting up a software application

Some software applications allow you to select colour printing or black-and-white printing for each document. With such an application, you may need to change the selection of colour or black-and-white printing.

Printing with DOS applications

Selecting a printer driver

To print in colour, you must select an appropriate printer driver for colour printing from a printer selection menu that most DOS software applications provide.

Setting up a software application

Some software applications allow you to select colour printing or black-and-white printing for each document. If the printer only prints in black-and-white even if you have selected a correct printer name for colour printing, check the software application's printer setup menu.

Preparing your printer

Depending on your printing needs, you may need to change the BJ Cartridge. To print in colour, install a Color BJ Cartridge BC-11e. To print a number of pages in black-and-white, install a Black BJ Cartridge BC-10.

Note

For black-and-white print jobs, we recommend that you use the Black BJ Cartridge BC-10, not the Color BJ Cartridge BC-11e. The BC-10's 128 nozzles deliver printing at higher speed.

Changing the BJ Cartridges

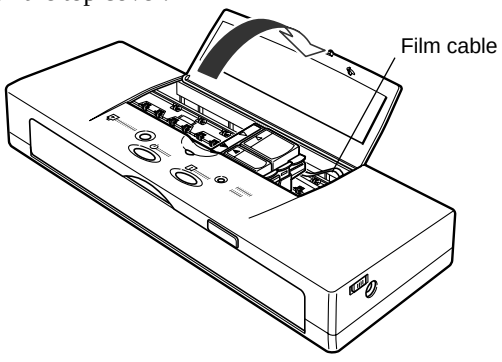
Follow the procedure below to change the BJ Cartridges. For example, before you print a long report full of black-and-white text, replace the Color BJ Cartridge BC-11e with a Black BJ Cartridge BC-10.

1. Check the printer **POWER** lamp and make sure that it is on. If the printer is off, press the **POWER** button to switch it on.
2. Press the **CARTRIDGE** button on the operation panel. The cartridge holder moves to the centre and the **POWER** lamp flashes.

Note

If the print head is overheated, it may not move to the centre immediately. Wait a few minutes for the print head to cool down. Never attempt to move the cartridge manually by pushing it or pulling on the film cable.

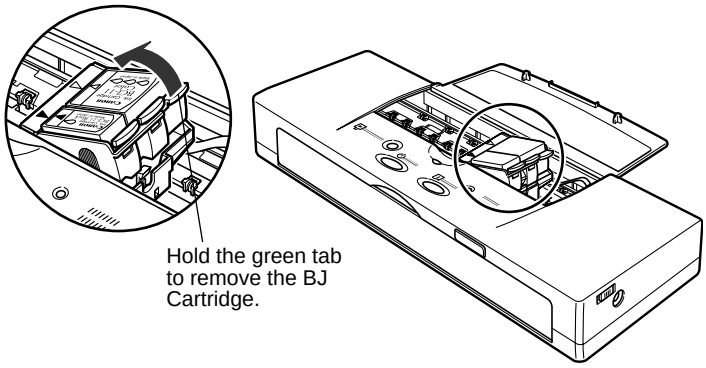
3. Open the top cover.



Note

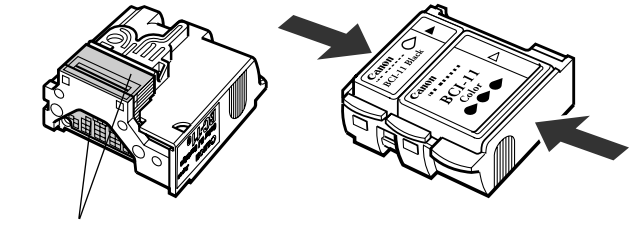
When the top cover is open, never touch the orange film cable inside the printer.

4. With the tip of your finger, lift up the tab on the corner of the BJ Cartridge then raise the cartridge and green print head unit out of the cartridge holder.



Note

Always hold a BJ Cartridge by its sides and never touch the wet print head or metal contacts.



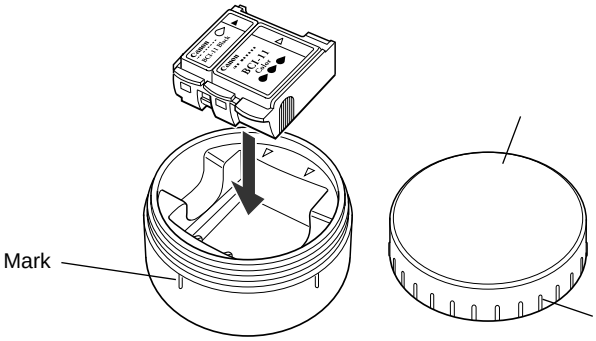
5

5. After removing the partially used BJ Cartridge, use the BJ Cartridge Storage Container SB-10 supplied with the printer.
Align the marks on the BJ Cartridge with the marks on the container and insert the BJ Cartridge into the container.

6. Screw the lid onto the storage container until it stops then continue twisting the lid until the mark on the lid is aligned with the mark on the body of the storage container.

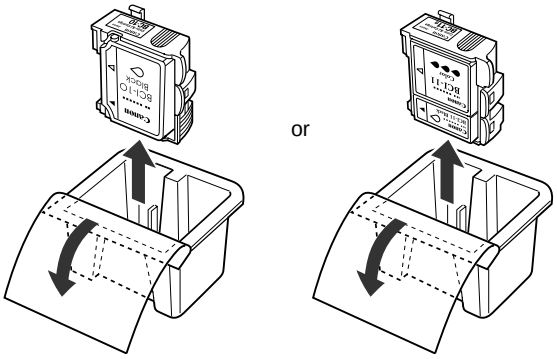
Note

Always screw the lid on tightly to prevent the BJ Cartridge from drying out.

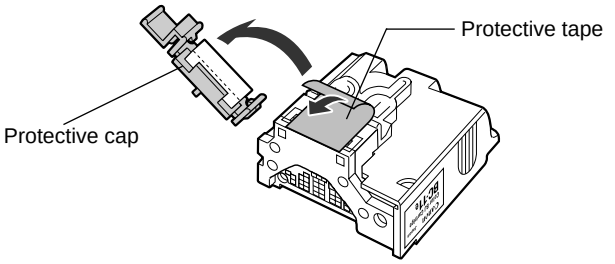


7. If you are installing a new BJ Cartridge, remove the BJ Cartridge from its protective packaging.

Black BJ Cartridge BC-10 Color BJ Cartridge BC-11e



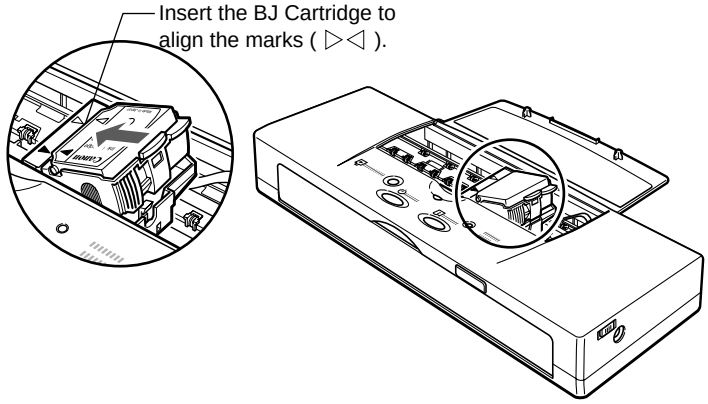
8. If you are installing a new BJ Cartridge, remove the orange protective cap and orange protective tape from the BJ Cartridge.



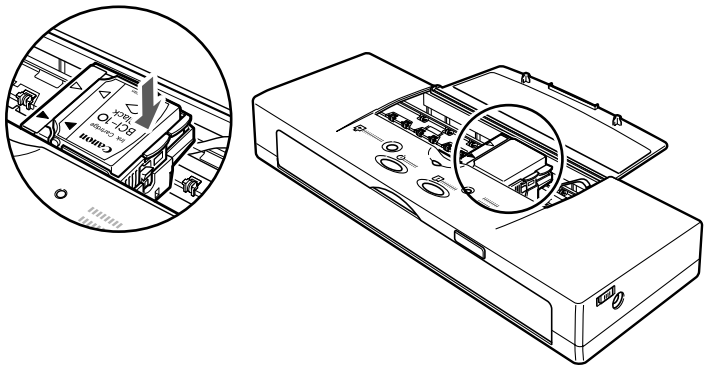
Note

To avoid staining your clothing or articles in your work area, do not drop or shake the BJ Cartridge. The ink in the BJ Cartridge can stain fabric permanently.

9. Insert the BJ Cartridge as shown below. Align the marks on the BJ Cartridge and the cartridge holder (yellow-yellow, black-black).



10. Press down on the high side of the BJ Cartridge until it snaps into the cartridge holder.



11. Close the top cover.

12. Wait about three seconds and press the **CARTRIDGE** button once.

After the BJ Cartridge is installed, the printer requires at least two seconds to detect the presence of the BJ Cartridge. The cartridge holder moves to the home position, and the printer automatically executes print head cleaning. Once print head cleaning is completed, the printer is ready to print.

If print quality problems such as white streaks, missing dots, or irregular dots are found in the initial printout, clean the print head. (☞80)

Printing with a colour BJ Cartridge

The benefits of colour printing

Colour printing enables you to create documents that are easier to understand, particularly if you are using coloured graphs for a presentation.

Selecting the print media

The correct choice of media is particularly important for colour printing.

The Canon BJC-50 is capable of printing not only on plain paper, but also on envelopes, transparencies, and other media. Please use the following guidelines when selecting a print media for your documents.

- Plain copier paper provides good results, and paper with cotton fibre is also suitable for colour printing.
- For important presentations or documents that include intensive graphics and colour, use High Resolution Paper HR-101, High Gloss

Film HG-101, Glossy Photo Paper GP-301, or similar products. The printer will produce even more vivid colours with these media. When printing on High Gloss Film or Glossy Paper, print on the glossy side only.

- Use Glossy Photo Cards FM-101 when creating photo greeting cards. This media allows you to make beautiful, borderless cards. When printing on this media, be sure to print on the side with the glossy finish.
- For overhead presentations, use Transparencies CF-102. Do not use copier transparencies as they cannot absorb the ink.
- If back-lighting is available for your presentation, you can use Back Print Film BF-102. This print medium is a mylar translucent sheet on which colours appear very vivid when shown with a back-lighting device.
- To print colour designs and patterns on cloth, use Canon Fabric Sheet FS-101. Use your favourite software to produce an original design then print the design on the fabric sheet. Create materials for pillows, gift bags, stuffed animals, hand puppets, appliqués and so on.
- You can also produce original designs on T-Shirt Transfer TR-201 (TR-101 in the U.S.) and transfer them with a hot iron to cotton or cotton-polyester blend T-shirts.
- For envelopes, use European DL size (220 x 110 mm) or U.S. Commercial 10 (241 x 105 mm (9.5 x 4.1 inches)).
- When you use special print media, make sure that you always print on the correct side. For details, refer to the table for loading special media. (☞42)

Understanding your software application's capabilities

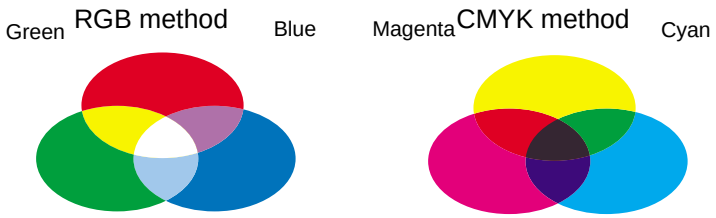
The Canon BJC-50 can print a large number of different colours. Your software application determines which colours you can use. The software application may support all 16.7 million colours or may be limited, as follows:

- A limited number of colours, such as the basic eight: red, green, blue, cyan, yellow, magenta, black, and white.

- A limited number of colours plus shades of those colours. Shades are created by adding white or using different colour patterns.
- A limited number of colours plus custom colours. For example, mixing red and blue for purple.

Matching Colours displayed on your monitor with printouts

Colours are displayed on a video monitor by mixing the colours red, green, and blue (the three primary colours of visible light) in the amounts required to produce any given colour. This sort of display technology is called RGB. In the RGB method, the more intense the colours you mix, the brighter the colour becomes.



Printing technologies, on the other hand, employ the three primary colours cyan, magenta, and yellow, plus black (or K) to produce colour effects. This method is called CMYK. In the CMYK method, the more of a given colour you add to a mixture of colours, the darker the resultant colour becomes.

As these paragraphs illustrate, the methods used to produce colour in displays and printers are completely different. Other factors that can affect the perception of colour are the quality of paper, type of print media, and differences in the source of light in use when viewing the colours. For these reasons, it is impossible to avoid some differences in the perceived colour of a document or image viewed on a monitor, and the same image in printed form. In order to achieve a printed result which looks like the image displayed on the screen of a monitor, you must first make the appropriate settings to both the software application and the printer.

Adjustments made to the monitor

If you have high quality monitor capable of finely controlling the amount of light allocated to each component of the RGB mix of colours, it is possible to adjust the colours appearing on the screen in such a way as to approximate the printed result. However, normal monitors allow only rough control of brightness and contrast, control which is applied indiscriminately to the entire screen and is not very effective for anything more than rough adjustment of the appearance of whole screen images. We recommend selection of a highly reliable monitor which suffers from as little deviation in the reproduction of colours as possible.

Some software applications allow you to adjust the Gamma value, a value which adjusts the contrast of a colour. One rule of thumb holds that a monitor Gamma value of about 1.4 brings the colours displayed on a monitor into close agreement with the colours displayed on the printed page.

Adjustment of colour from within software applications

When the software application allows adjustment of colour, the appearance of colours on the monitor screen can be adjusted after comparison with printed results.

Normally, colours are adjusted according to the procedure outlined below. For further information about how to adjust colours, see the documentation accompanying your software application.

- First, print out a colour sample using the CMYK method, and adjust the colours appearing on the monitor screen as you compare them to the printed result. This process is called colour calibration. By performing this calibration, it is possible to bring the colours displayed on the monitor screen and on the printed page into closer match.
- If your software application uses a colour palette to set colour levels, it is possible to finely tune the appearance of a particular colour by adjusting the colour palette.
- If your software application permits you to adjust the colours over the entire screen through use of a colour balance, you can make adjustments like washing out red colours or strengthening yellows over the entire screen at a single stroke.

Colour and cost

Printing in colour costs more than printing in black ink only. To reduce the cost of colour printing, follow these guidelines:

- When printing monochrome images, install the Black BJ Cartridge BC-10.
- When printing spreadsheet-type graphs, choose coloured hatch patterns instead of solid colours. Hatch patterns typically use less ink and look just as good as solid colours.
- Use lighter colours that use more white space; for example, pink instead of red. Although white is a colour, the printer does not produce white ink; it uses the colour of the paper as white.
- Avoid using full-colour backgrounds. For colour presentations that do contain a full-colour background, print the background for the final output only, not for drafts.
- Some software applications allow you to print several pages of data on one page in condensed size. If available, use this mode for printing multiple pages quickly at a lower cost.

Chapter 6

Maintaining the Printer

This chapter covers the care and maintenance of your Canon BJC-50 printer including instructions for transporting, storing, and cleaning the printer, replacing BJ Cartridges, and cleaning the print head.

Your printer requires little maintenance but to keep it in top operating condition, you should perform the following routine maintenance.

Recharging and replacing the battery pack

This section shows you how to recharge and replace your battery pack.

Note

Install and use only a Canon Li-Ion Battery LB-50 in this printer. You must install the battery pack and leave it installed in the printer even if you intend to use the printer only with the AC adapter. If the battery pack is not installed, the printer CHARGE/ERROR lamp will light orange and the printer will beep six times.

Recharging the battery pack

When the power in the battery pack runs low, the **CHARGE/ERROR** lamp flashes orange and the printer beeps four times. When the power in the battery pack is depleted, the **CHARGE/ERROR** lamp lights orange and the printer beeps twice (one long and one short beep).

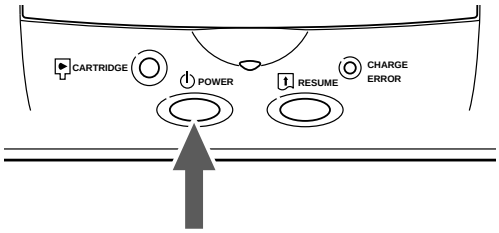
Follow this procedure to recharge the battery pack.

Caution

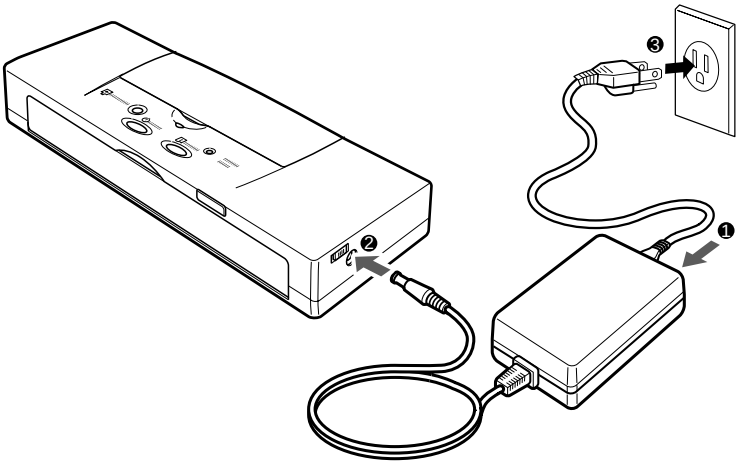
NEVER ATTEMPT TO RECHARGE THE BATTERY PACK WITH ANYTHING OTHER THAN THE UNIVERSAL AC ADAPTER AD-360U SUPPLIED.

For best results, charge the battery pack at room temperature 10°C to 30°C (50°F to 86°F). The battery pack will recharge very slowly at low temperature and will not charge fully at high temperature.

1. Press the **POWER** button to switch the printer off.



2. Connect the power cord to the AC adapter ❶, insert the DC plug into the printer ❷, and insert the power cord into a power source ❸.



The **CHARGE/ERROR** lamp will remain illuminated green until the battery pack is completely recharged.

3. When the **CHARGE/ERROR** lamp goes off, you can disconnect the AC adapter.

Note

- The battery pack requires six hours (maximum) to recharge.
- The battery pack may become warm during a long print job and may not start recharging until it has cooled (max. 30 minutes).

Replacing the battery pack

Follow this procedure to replace the battery pack.

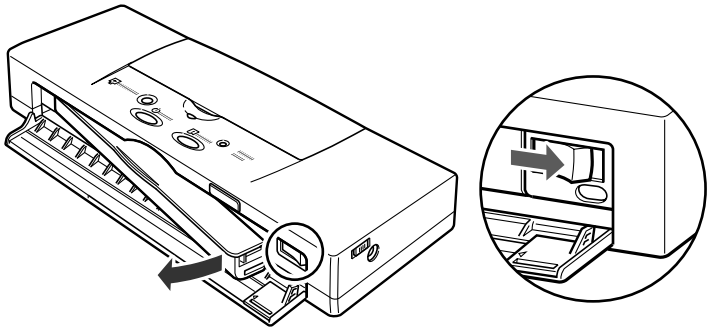
You can replace the battery pack at any time. You may want to purchase and carry extra battery packs for emergencies. However, please remember that new battery packs must be fully charged before you can use them. Before you travel, make sure new battery packs are fully charged.

You must also replace a battery pack after it is exhausted. The **CHARGE/ERROR** lamp will flash and the printer will beep six times when the battery pack becomes exhausted. After the battery pack is exhausted, ti cannot be recharged and used again.

Caution

HANDLE THE BATTERY PACK CAREFULLY BY FOLLOWING THE GUIDELINES DESCRIBED ON PAGE 21.

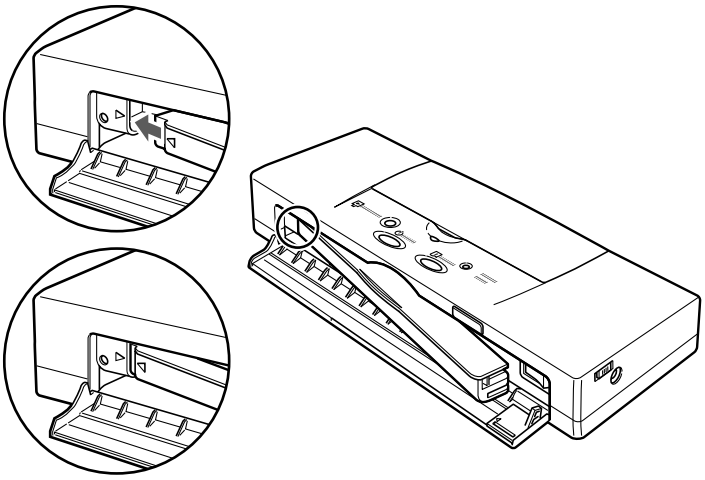
1. Press the **POWER** button to switch the printer off.
2. If the optional sheet feeder is installed on the printer, remove it.
3. If the front cover is closed, open it.
4. Push the battery pack release to the right. The battery pack will spring slightly out of the printer.



5. Remove the battery pack from the printer.

6. Remove the new battery pack from its packaging.

7. Align the mark on the printer (▷) with the mark on the battery pack (◁) and insert the left end of the battery pack into the printer at a slight angle.



8. Push in the right side of the battery pack to lock it in place.

9. Close the front cover.

10. If you have just installed a new battery pack, you must allow it to charge before you can use it. Just leave the AC adapter connected to the printer and the power outlet. The battery pack will charge while the printer is switched off or on. About six hours (maximum) is required for the battery pack to fully charge.

Note

If you have replace an exhausted battery pack, dispose of the battery pack according to the regulations in your country. For details, contact your Canon Authorised Dealer or Canon Representative.

Replacing ink cartridges

In this section we show you how to handle and replace the ink cartridges.

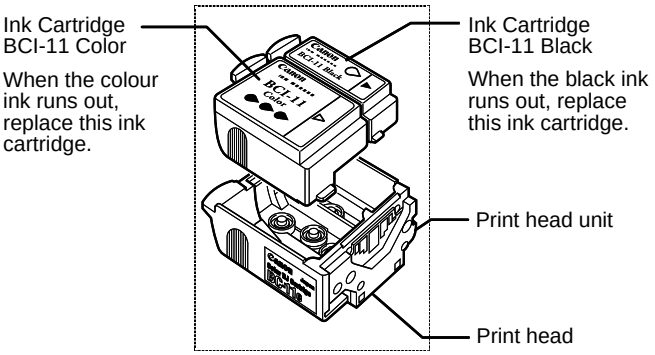
Handling ink cartridges

BJ Cartridges and ink cartridges should be used within six months of purchase to ensure optimum printing. To avoid leaking or drying, follow these simple precautions:

- Never attempt to disassemble an ink cartridge.
- Never shake an ink cartridge.
- Never unpack an ink cartridge until you are ready to install it.
- Do not remove ink cartridges from the BJ Cartridge unnecessarily.
- To prevent drying out the print head, never use the print head unit with an ink cartridge missing.
- Always install an ink cartridge as soon as you remove the protective cap and tape.
- Keep unused ink cartridges out of the reach of children, and discard used ink cartridges immediately. If spilled, the ink is difficult to clean.

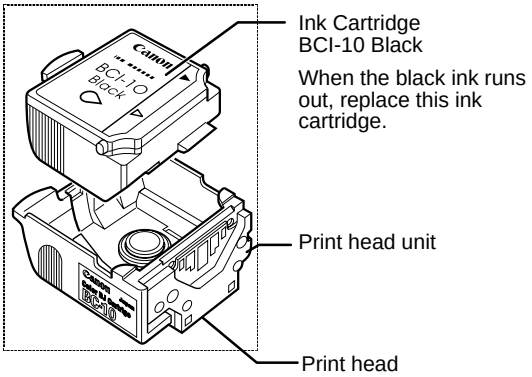
Examining the ink cartridges

The Color BJ Cartridge BC-11e employs the Ink Cartridge BCI-11 Color and the Ink Cartridge BCI-11 Black.


Ink Cartridge
BCI-11 Color
When the colour ink runs out, replace this ink cartridge.
Ink Cartridge
BCI-11 Black
When the black ink runs out, replace this ink cartridge.
Print head unit
Print head

Color BJ Cartridge BC-11e

The Black BJ Cartridge BC-10 employs only one ink cartridge.



Black BJ Cartridge BC-10

Replacing an ink cartridge

Replace an ink cartridge when it runs out of ink. The frequency of changing the ink cartridges will vary according to how the printer is used. If you frequently print images of heavy density, you will need to change the ink cartridges more often. For details about cartridge capacity, refer to the specifications at the end of this user's guide. (☞129)

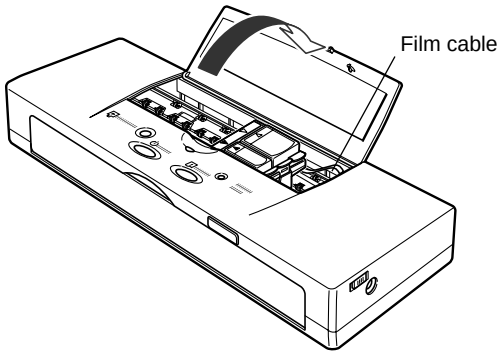
1. Check the **POWER** lamp and make sure that it is switched on. If the printer is off, switch it on.

2. Press the **CARTRIDGE** button. The cartridge holder moves to the centre and the **POWER** lamp starts flashing.

Note

If the print head is overheated, it may not move to the centre immediately. Wait a few minutes for the print head to cool down. Never attempt to move the cartridge manually by pushing it or pulling on the film cable.

3. Open the top cover.



Note

When the top cover is open, never touch the orange film cable inside the printer.

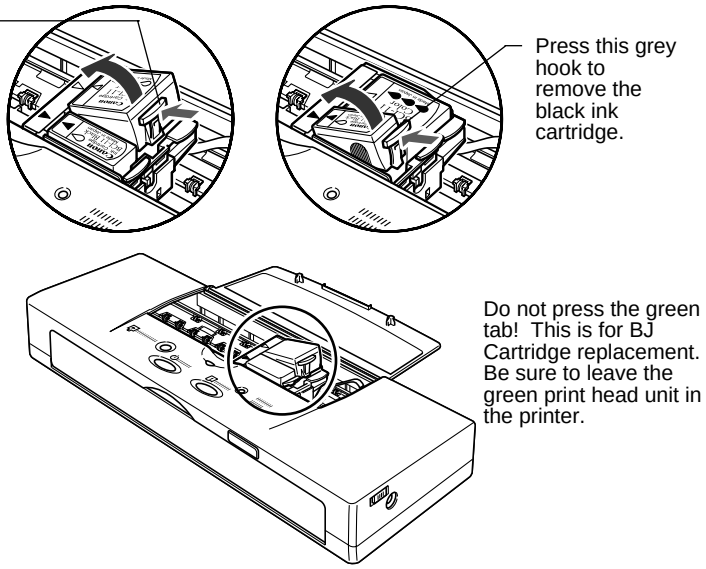
4. Release the hook on the ink cartridge and raise it up as shown in the illustration below.

Dispose of the ink cartridge immediately.

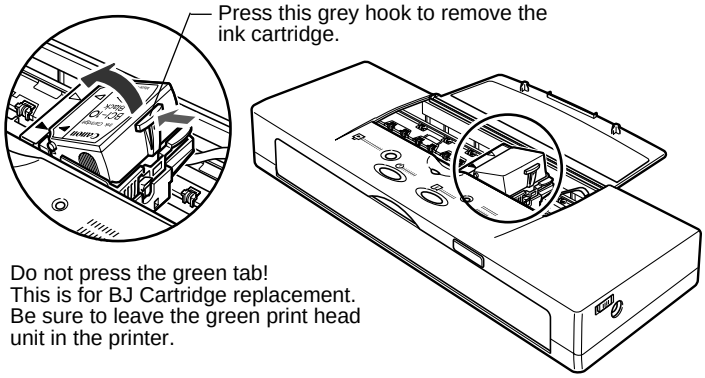
Note

You may want to place it in a plastic bag to keep from spilling any ink.

Ink Cartridges BCI-11 Color and Black


Press this white hook to remove the colour ink cartridge.
Press this grey hook to remove the black ink cartridge.
Do not press the green tab! This is for BJ Cartridge replacement. Be sure to leave the green print head unit in the printer.

Ink Cartridge BCI-10 Black


Press this grey hook to remove the ink cartridge.
Do not press the green tab!
This is for BJ Cartridge replacement.
Be sure to leave the green print head unit in the printer.

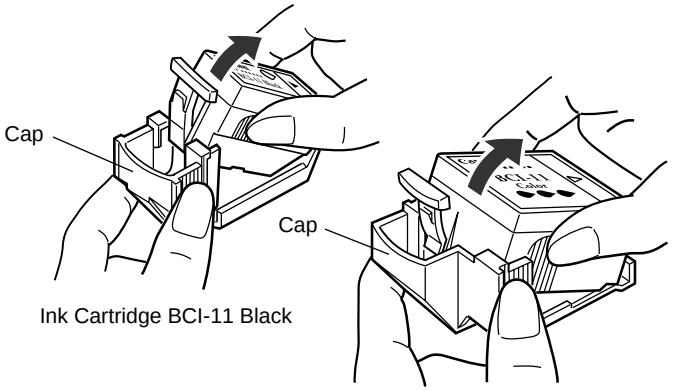
Caution

DO NOT TOUCH THE INTERIOR OF THE CARTRIDGE HOLDER, THE BASE OF THE PRINT HEAD UNIT, THE PRINT HEAD, THE FILM CABLE, OR THE INK CARTRIDGE FILTERS WHEN CHANGING THE INK CARTRIDGE.

Note

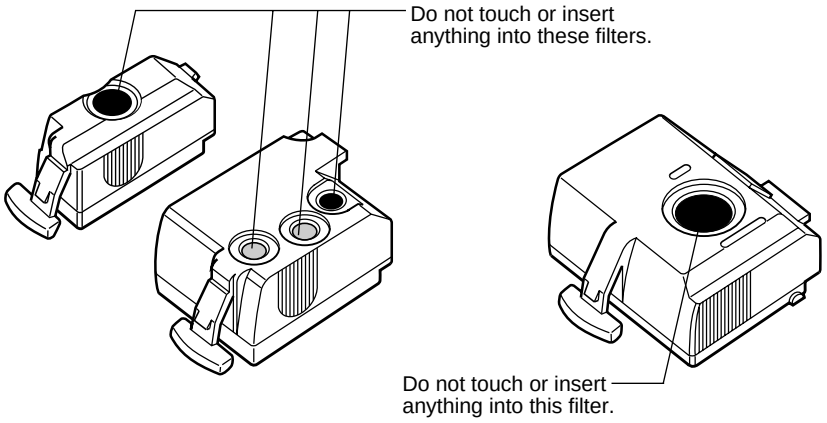
When replacing an ink cartridge, remove only the empty ink cartridge and leave the print head unit in the cartridge holder to avoid soiling your hands.

5. Remove the orange protective cap from the new ink cartridge.

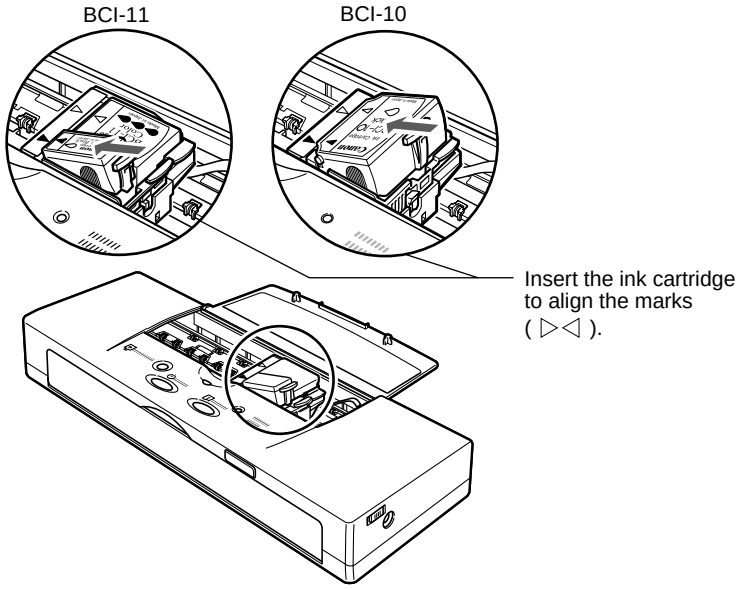


Note

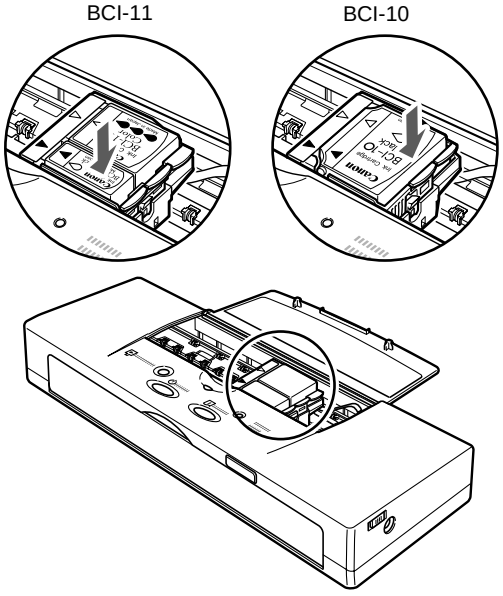
Do not touch or insert anything into the filter on the ink cartridge.



6. Position the new ink cartridge so that its filter is on the bottom, and insert it as shown in the illustration below.



7. Press down gently on the high side of the ink cartridge until the ink cartridge clicks into the print head unit.



8. Close the top cover.

9. Press the **CARTRIDGE** button. The cartridge holder moves to the home position and the printer starts cleaning the print head.

Replacing BJ Cartridges

Follow this procedure to replace or exchange a BJ Cartridge.

Before you replace a worn BJ Cartridge...

When a print head becomes worn out, the printing is no longer crisp and clear, gaps may appear in characters, and lines may appear broken or not complete. However, these and similar problems can also be caused by a clogged print head.

Before you decide to replace the BJ Cartridge, always clean the print head to confirm that the problem is not a clogged print head.

1. Print a Nozzle Check Pattern. (☞45)

2. If the quality of the pattern is poor, clean the print head four or five times. (☞80)

3. Print another Nozzle Check Pattern. If the pattern is still poor, flush the print head twice. (☞80)

4. If print head flushing fails to correct the problem, follow the procedure below to replace the BJ Cartridge.

Replacing a BJ Cartridge

Follow this procedure to replace the BJ Cartridge.

The Black BJ Cartridge BC-10 and Color BJ Cartridge BC-11e were designed specially for this printer. Never attempt to use any other type of cartridge with this printer.

1. Check the printer **POWER** lamp and make sure that it is switched on. If the printer is off, press the **POWER** button to switch it on.

2. Press the **CARTRIDGE** button. The cartridge holder moves to the centre and the **POWER** lamp flashes.

Note

If the print head is overheated, it may not move to the centre immediately. Wait a few minutes for the print head to cool down. Never attempt to move the cartridge manually by pushing it or pulling on the film cable.

3. Remove the BJ Cartridge and install a new BJ Cartridge. Follow the same procedure used to replace a Color BJ Cartridge BC-11e with a Black BJ Cartridge BC-10. (☞72)

   Dispose of the old BJ Cartridge immediately.

Note

You may want to place it in a plastic bag to prevent spillage from the print head.

4. Press the **CARTRIDGE** button.

   The cartridge holder moves to the home position and the printer starts cleaning the print head. After print head cleaning is completed, the printer is ready for operation.

Installing the Color Image Scanner Cartridge IS-12

The printer can be converted to a colour image scanner by installing the optional Color Image Scanner Cartridge IS-12. This section describes how to install and remove the Scanner Cartridge. For details about operating the printer as a scanner, see the *Color Image Scanner Cartridge IS-12 User's Manual*.

Removing the BJ Cartridge

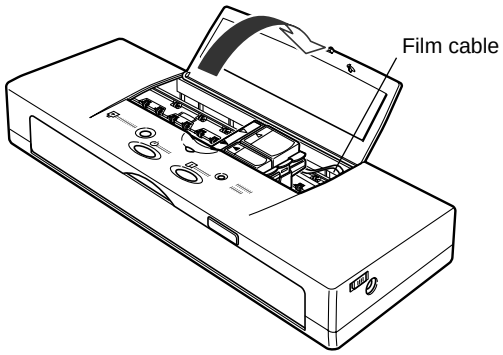
Follow this procedure to remove the BJ Cartridge.

1. Check the printer **POWER** lamp and make sure that it is on. If the lamp is off, press the **POWER** button to switch the printer on.
2. Press the **CARTRIDGE** button. The cartridge holder moves to the centre.

Note

You must install and use the IS Scan 1.20 scanner driver or higher. Earlier versions of this scanner driver do not work correctly with the BJC-50.

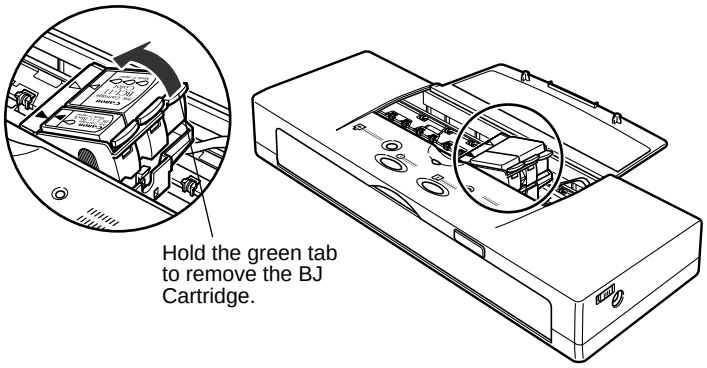
3. Open the top cover.



Note

When the top cover is open, never touch the orange film cable inside the printer.

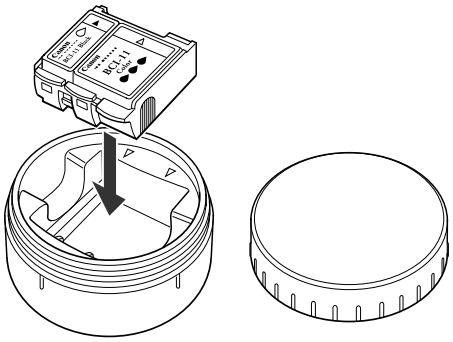
4. With the tip of your finger, lift up the green tab on the corner of the BJ Cartridge then raise the cartridge and green print head unit out of the cartridge holder.



Note

Make sure that you remove the whole BJ Cartridge, not just the ink cartridges.

5. Place the BJ Cartridge with its ink cartridges in a BJ Cartridge Storage Container SB-10.



6. To prevent the print head from drying out, close the lid on the container tightly. If the print head dries out, it will no longer be able to print.

Installing the Scanner Cartridge

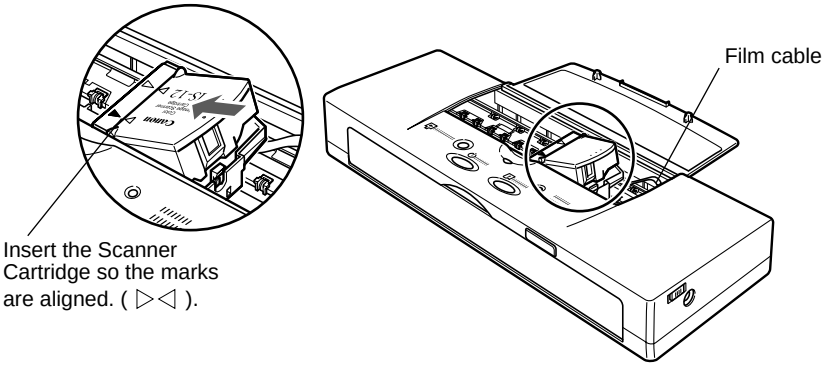
Follow this procedure to install the Color Image Scanner Cartridge IS-12.

1. Remove the Scanner Cartridge from its protective soft case.

Note

Save the case! You will need it to store the Scanner Cartridge when it is not installed on the printer.

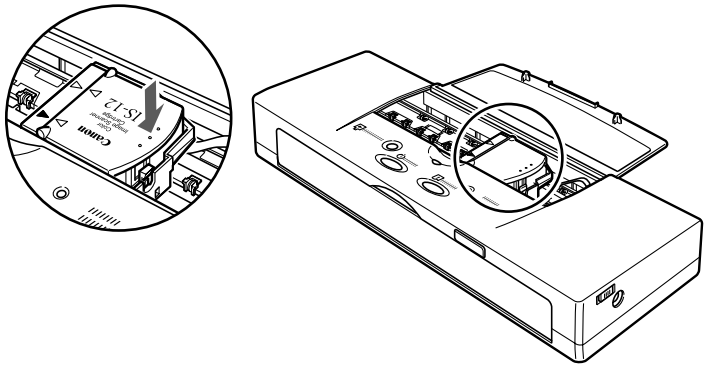
2. With its label facing up, place the Scanner Cartridge in the cartridge holder.



Note

When the top cover is open, never touch the orange film cable inside the printer.

3. Press down gently on the high side of the Scanner Cartridge until it snaps in place.



4. Wait about three seconds and press the **CARTRIDGE** button once.

   After the Scanner Cartridge is installed, the printer requires at least two seconds to detect the presence of the Scanner Cartridge, then the Scanner Cartridge moves to the home position.

5. Close the top cover.

Removing the Scanner Cartridge

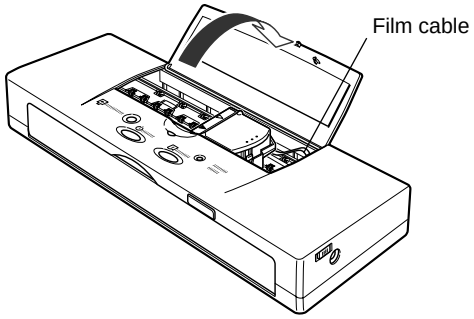
Remove the Scanner Cartridge as soon as you are finished scanning and replace it with a BJ Cartridge.

Note

To avoid problems with printer and Scanner Cartridge operation, never leave the Scanner Cartridge in the printer longer than necessary. Always remove the Scanner Cartridge and store it when it is no longer in use.

1. Check the printer **POWER** lamp and make sure that it is on. If the lamp is off, press the **POWER** button to switch the printer on.
2. Press the **CARTRIDGE** button. The cartridge holder moves to the centre.

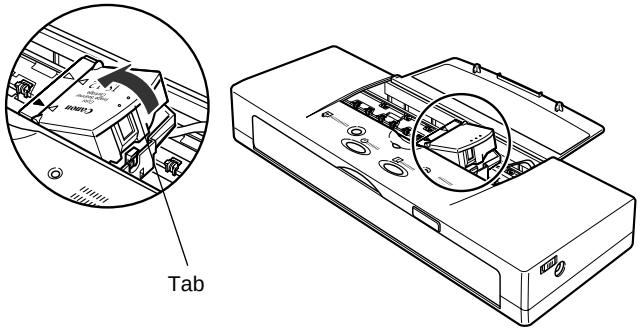
3. Open the top cover.



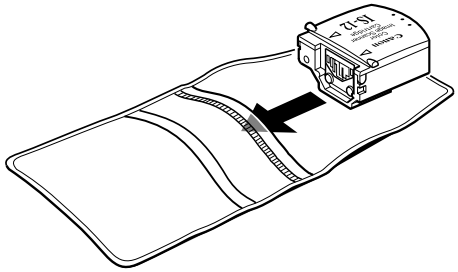
Note

When the top cover is open, never touch the orange film cable inside the printer.

4. With the tip of your finger, lift up the tab on the Scanner Cartridge then raise it out of the cartridge holder.



5. Store the Scanner Cartridge in its protective soft case.



6. Remove the BJ Cartridge from the BJ Cartridge Storage Container SB-10.

7. Insert the BJ Cartridge into the cartridge holder diagonally so the points of the small triangle marks align (yellow-yellow, black-black).

8. Press down gently on the BJ Cartridge until it clicks into place.

9. Press the **CARTRIDGE** button once. The printer starts cleaning the print head. After print head cleaning is completed, the cartridge holder moves to the home position.

10. Close the top cover.

11. Make sure you install the IS Scan scanner driver supplied on disk with the printer. For details, refer to the supplemental sheet for scanner diver installation.

You must install and use the IS Scan 1.20 scanner driver or higher. Earlier versions of this scanner driver do not work correctly with the BJC-50.

Cleaning the printer

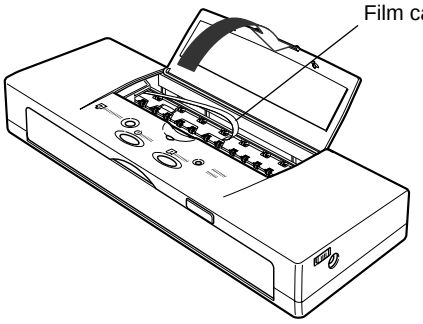
Before you start cleaning

You should clean the printer regularly to avoid printing problems. Follow these simple guidelines when you clean the printer:

- Before you clean the printer, press the **POWER** button to switch the power off, unplug the AC adapter from the power source, and remove the battery pack from the printer. (☞64)
- Use only a soft cloth to clean the printer. Do not use paper towels or tissues.
- Do not clean the grease from the cartridge rail.
- To avoid damaging the surface of the printer, do not clean the printer body with volatile liquids such as thinners, benzene, or any chemical or spray cleaners.
- When cleaning the printer, avoid the area near the print head on the BJ Cartridge. Do not touch the print head, film cable and other delicate parts.
- Never submerge the printer in water.

Cleaning inside and outside the printer

1. Open the top cover.

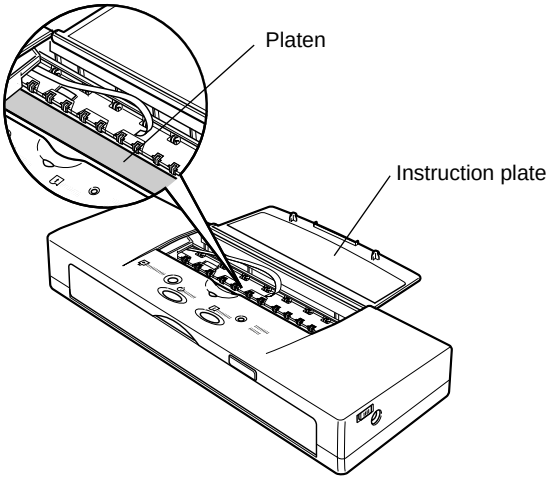


Note

When the top cover is open, never touch the orange film cable inside the printer.

2. Clean the platen.

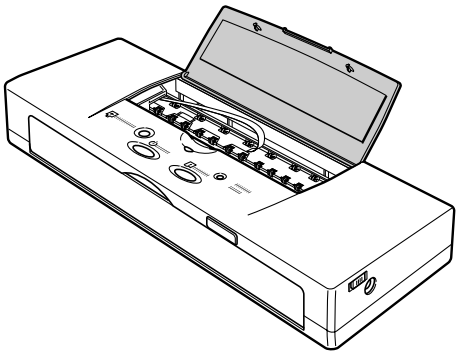
The platen, which holds the paper in position during ink transfer, may be soiled after a paper jam or other paper feed problems. When the platen is soiled with ink, the back or edge of the printed sheet may be smudged. Use a soft, dry cloth to wipe the platen clean.



Caution

WHILE YOU ARE CLEANING THE INSIDE OF THE PRINTER, DO NOT BEND THE INSTRUCTION PLATE.

3. Clean the underside of the top cover. Ink residues may collect in this area.



Cleaning the print head

You should start print head cleaning when your print quality is poor. There are two methods of print head cleaning:

- **Cleaning**: Requires about 30 seconds and can improve print quality.
- **Flushing**: Requires about 60 seconds and corrects severe nozzle clogging. Because Flushing consumes a lot of ink, execute flushing only when the print quality does not improve after repeated cleaning.

Note

You can start cleaning or flushing the print head with the Windows printer driver or the operation panel. For details about starting cleaning or flushing with the Windows printer driver, refer to the Windows Print Guide.

To start cleaning/flushing from the operation panel:

1. Press and hold down the **RESUME** button.

To start print head cleaning, hold down the **RESUME** button until you hear two beeps then release it. Cleaning requires about 30 seconds.

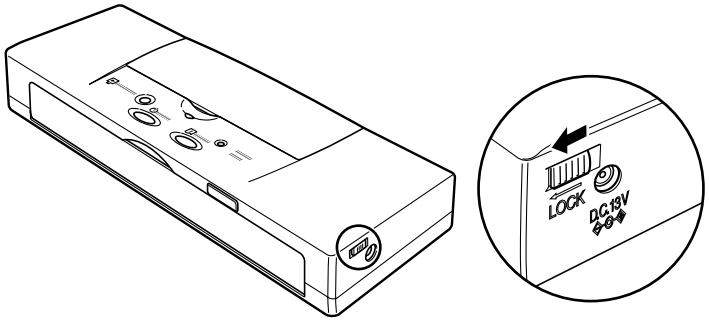
To start print head flushing, hold down the **RESUME** button until you hear three beeps then release it. Flushing requires about 60 seconds.

2. To check the performance of the print head, print a Nozzle Check Pattern. (☞45)

Preparing the printer for travel or storage

Follow the procedure below before you transport or store the printer.

1. Press the **POWER** button to switch off the power. This secures the cartridge holder in the home position.
2. On the right side of the printer, slide the power lock switch to the left position. This locks the printer off so it cannot be switched on accidentally during transportation.



Note

The next time you use the printer, make sure that you slide the power lock switch to the right position before you press the POWER button to switch the printer on.

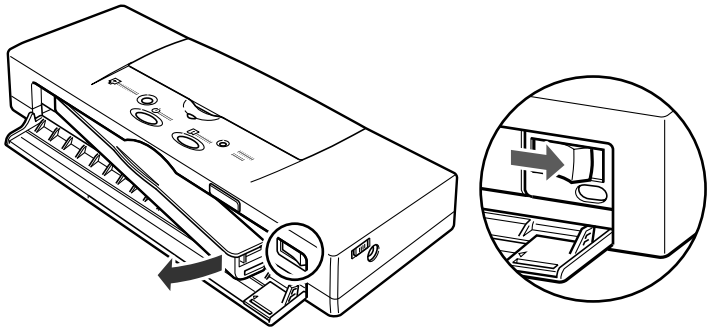
3. If the optional sheet feeder is attached, remove it.
4. If the BIFC-50 printer cable is connected, disconnect it from the printer and computer.
5. If the AC adapter is connected, disconnect it from the printer and the power outlet.
6. Make sure that the top cover is closed.

7. If you are going to store the printer for a prolonged period (three months or more), remove the battery pack.

Note

You do not have to remove the battery pack to transport the printer. Remove the battery pack only if you are going to store the printer for a prolonged period (three months or more).

- Open the front cover.
- Push the battery pack release to the right. The battery pack will spring slightly out of the printer.



- Remove the battery pack and close the front cover.

8. Replace the printer and accessories in the original packing materials for storage, or place them in a suitable carrying case for transport.
- It is not necessary to remove the BJ Cartridge and ink cartridges from the printer for transport.
- When travelling on an aeroplane, always pack the printer with your hand luggage items to minimise shocks and vibrations to the printer.
- Avoid leaving the printer in a closed automobile where it may be exposed to extremes of temperature or humidity.

Note

The printer can safely be sent through airport security X-ray machines.

Chapter 7

Troubleshooting

If you experience problems during printing, first check your software application settings and make sure you have selected the correct printer driver, page size, and so on.

Print a demonstration or one of the test patterns. (☞45)

If the test prints successfully, the problem is not inside the printer, so first check the printer cable connection at the printer and your computer. A loose connection can generate random errors and messages that can waste valuable time and effort in trying to identify the problem.

Switch the printer off and switch it on again. Try the print again. If the problem persists, read the check list below and try to solve the problem.

Check List

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Errors indicated by the CHARGE/ERROR lamp

CHARGE/ERROR lamp lights and and buzzer beeps once.

If the sheet is too narrow (less than 100 mm), or if the sheet is inserted diagonally, the buzzer will beep once, the **CHARGE/ERROR** lamp will light orange, and the printer will eject the paper from the feed slot. After the sheet is inserted again correctly, the printer will reverse feed it slightly and the buzzer will not beep. If **POWER** lamp is flashing, data remains to be printed. Press the **RESUME** button to finish the print job.

CHARGE/ERROR lamp lights and stays on and buzzer beeps twice.

The printer could not eject the paper correctly because the paper is over 58 cm long (23 in.). Remove the paper. Break the print job into shorter pages. The printer cannot feed and eject paper longer than 58 cm (23 in.).

CHARGE/ERROR lamp lights and stays on and buzzer beeps three times.

No BJ Cartridge is installed on the printer. Install a BJ Cartridge. (☞28)

CHARGE/ERROR lamp lights and stays on and buzzer beeps six times.

The battery pack is not installed correctly in the printer. Press the **POWER** button to switch the printer off and install the battery pack. (☞19) Press the **POWER** button to switch the printer on again. If the problem persists, replace the battery pack. (☞62) To avoid problems with the battery pack, always use the printer within the correct temperature range of 0°C to 35°C (32°F to 95°F).

CHARGE/ERROR lamp flashes green when power is off.

Battery pack is damaged. Replace the battery pack. (☞62)

Buzzer beeps six times when power is on.

Battery pack is damaged. Replace the battery pack (☞62)

CHARGE/ERROR lamp flashes and buzzer beeps once.
The printer could not feed the paper or special media correctly. Hold the printer steady with one hand and then pull the sheet from the printer slowly. Reload the sheet straight into the printer with the left edge of the sheet perfectly aligned with the left side of the feed slot.

CHARGE/ERROR lamp flashes and buzzer beeps three times.
The cartridge has automatically moved to the home position. Press the **CARTRIDGE** button again to move the cartridge holder to the centre.

CHARGE/ERROR lamp flashes and buzzer beeps four times.
The battery pack charge is low and the printer will switch off automatically in about five minutes. To finish a short print job in progress, press the **RESUME** button to continue printing. If possible, use the AC adapter to power the printer and complete the print job. Recharge the battery pack. (☞62)

CHARGE/ERROR lamp flashes and buzzer beeps five times.
The internal ink waste tank is almost full. To finish a print job in progress, press the **RESUME** button and continue printing. Contact your Canon Authorised Dealer or supplier as soon as possible.

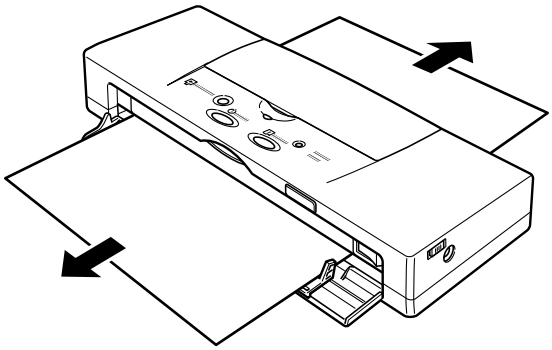
CHARGE/ERROR lamp flashes and buzzer beeps six times.
The battery pack has been exhausted and cannot be recharged. Discard the used battery pack and replace it with a new one. (☞64). Dispose of the battery pack according to the regulations in your country For details, contact your Canon Authorised Dealer or Canon Representative.

CHARGE/ERROR lamp lights orange and the printer beeps twice, one long and one short beep.
The power in the battery pack is depleted. In order to continue using the printer, you must connect the AC adapter. Recharge or replace the battery pack. (☞62)

CHARGE/ERROR lamp and POWER lamp flash together and the buzzer beeps once, twice, four times, six to seven times, or 11 to 12 times.
An internal system error has occurred. Switch the printer off and disconnect the AC adapter. Connect the AC adapter again, switch on the printer, and perform some test prints. Usually this solves the problem, but if the problem persists, stop using the printer and contact your Canon Authorised Dealer or supplier.

Clearing paper jams

1. Gently pull the paper out of the printer with one hand while holding the printer in place with the other. You can pull the paper out from the front or the rear of the printer.



2. If the paper tears off inside the printer, switch off the printer and open the top cover. Remove the remaining paper, taking care not to touch the film cable.

3. Press the **POWER** button to switch the printer on again. The printer is now ready to print.

4. Open the top cover and check the platen. If the platen is soiled and the reverse side of your output is stained with ink after a paper jam occurs, clean the platen inside the printer. (☞79)
- If paper jams occur repeatedly, you may be loading the paper incorrectly, or using the wrong kind of paper.
- Make sure that you are loading and feeding the paper or special media correctly. (☞42)

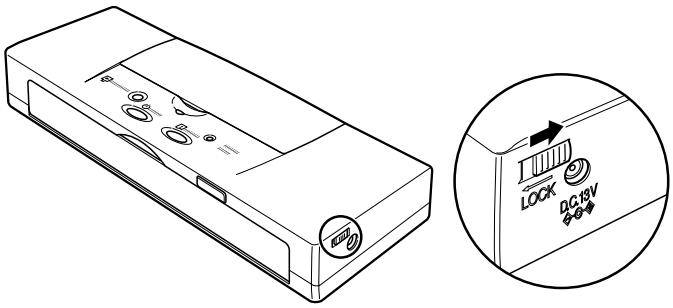
Operational problems

This section describes solutions to various problems you may have with the operation of your printer. Each section contains several solutions. Try them in the order listed.

Printer does not switch on

When you switch on the printer, the **POWER** lamp flashes until automatic print head cleaning is completed. The **POWER** lamp lights and stays on when the printer is ready for normal operation. If the **POWER** la0mp is not on, the printer is not receiving power.

1. If the power lock switch is in the left position, slide it to the right.



Note

When the power lock switch is in the left position, it locks the power switch off so it cannot be switched on accidentally during transportation.

2. If the AC adapter is not attached, check the **CHARGE/ERROR** lamp. If the **CHARGE/ERROR** lamp lights orange, this means the battery pack requires charging. Switch off the printer and connect the AC adapter. The **CHARGE/ERROR** lamp will remain illuminated green until the battery pack is completely recharged.

Note

If you want to use the printer immediately, just connect the AC adapter and use the printer. When you switch off the printer, leave the AC adapter connected so the battery pack will be continue recharging.

3. If the AC adapter is connected and the **POWER** lamp is not on, check the AC adapter connector on the right side of the printer and make sure it is completely inserted into the printer.

4. Make sure the AC adapter is plugged securely into a power outlet. If the AC adapter is connected to a power strip, make sure that the power strip is switched on and connected to a power outlet.

POWER lamp comes on, but printer does not print

1. Check the printer cable connection. You must use the Canon Printer Cable BIFC-50 supplied with this printer. Make sure the connections are secure on the printer and on the computer.
2. If you are using an IrDA connection, make sure the IrDA interface ports on the printer and computer are facing one another and not more than one metre apart. (☞23) Check the Windows 95 Printers setup and make sure that the BJC-50 is selected as the default printer. Check the Details sheet of the BJC-50 printer driver and make sure an available COM port is selected for the IrDA interface.
3. Make sure the computer is set up correctly for your printer.
4. Make sure that your software application is set up correctly for your printer.

BJ Cartridge moves, but printed text/graphics does not appear

1. Make sure that the BJ Cartridge and its ink cartridges are properly installed.
2. If print does not appear after print cartridge installation, make sure that you have removed the protective cap and the protective tape from the BJ Cartridge. (☞31)
3. The nozzles on the print cartridge may be clogged. Clean the print head. (☞80)
4. If printed text/graphics does not appear after performing the print head cleaning once or twice, the ink cartridge is empty. Replace it with a new one. (☞66)

Ink runs out sooner than expected

Make sure you do not press the **CARTRIDGE** button and move the BJ Cartridge to the centre unnecessarily. The printer executes print head cleaning automatically every time you move the BJ Cartridge in this way. This consumes ink.

Paper does not eject after printing

Most software applications instruct the printer to eject the last sheet after printing. However, occasionally you may need to eject a sheet manually.

1. If there is data waiting to print, the **POWER** lamp flashes.
2. To print the last sheet, press the **RESUME** button.

A sheet of paper is ejected upon starting up Windows 98

This problem occurs when virtual device driver DRVWPPQT.VXD is loaded upon starting Windows 98. Search for the file DRVWPPQT.VXD on your hard disk and delete it if found. Ordinarily, DRVWPPQT.VXD is located in the Windows¥System¥losubsys folder or the Arcada¥System folder.

Print quality problems

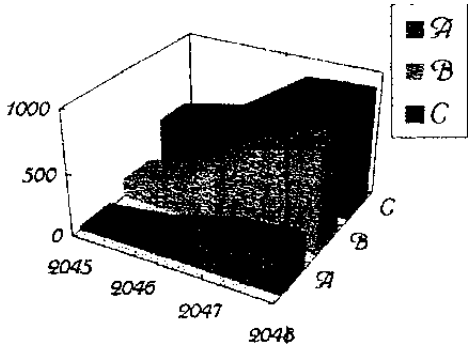
Some print quality problems result from using the wrong media or print mode. There may also be a problem with the print head or ink cartridge. If the quality of your printout does not match your expectations, check the list of problems and solutions below.

White streaks, dots missing, or irregular dots

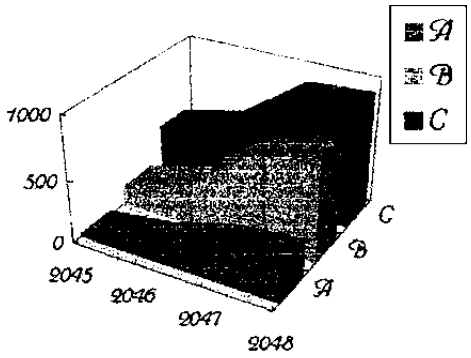
If white streaks (see example below) or irregular dots appear on the printout, or if there seem to be dots missing, the print head may be clogged with ink, paper particles, or dust.

Clean the print head to restore print quality. (☞80)

Print sample with white streaks (clogged print head)



Normal print sample



To clean the print head

1. If print quality deteriorates as described above, first clean the print head. Press and hold down the **RESUME** button until you hear two beeps then release it. Cleaning requires about 30 seconds.
2. After cleaning is completed, print the Nozzle Check Pattern to see if the print quality has been restored. (☞45) If horizontal lines are missing on the Nozzle Check Pattern, the print head may be still clogged.
3. Clean the print head unit once again.
   - If a printed page or the Nozzle Check Pattern is almost blank after one or two cleanings, the ink cartridge has run out so replace it with a new one. (☞66)
   - If print quality is not restored after replacing the ink cartridge, start flushing.

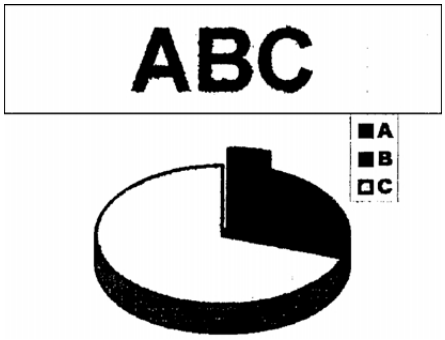
To start flushing

1. Press and hold down the **RESUME** button for about six seconds until you hear three beeps. Flushing requires about 60 seconds.
2. After executing flushing once or twice, print a page or the Nozzle Check Pattern. (☞45) If you see irregular dots or lines on the printed page, this means the print head has worn out.
3. Replace the BJ Cartridge with a new one. (☞72)

Printout is not clear

1. Make sure that you are using a recommended media. (☞42)
2. Some copier paper has a right side and a wrong side. If the print quality is poor, try turning the paper over and printing on the other side.
3. If the printout is faint, you may be printing in **HS** mode, which uses only half the ink of the **HQ** mode. Open the printer driver and change the setting.
4. The print head nozzles may be clogged. To clean the print head, press and hold down the **RESUME** button until the printer beeps once.

Characters are blurred or smudged



1. Make sure that you are using a recommended media. (☞42)
2. Some copier paper has a preferred side. If the print quality is poor, try turning the paper over and printing on the other side.
3. Check the print mode. If the printout is stained with ink, try using the **Fine** mode. Open the printer driver and change the setting.

Smudges on back or edge of printed page

If the printer platen has been soiled by a paper jam or by printing beyond the paper edges, the reverse side of the printed page may have smudge marks. Clean the platen. (☞79)

Output appears jagged

Check your software application to see what printing resolution you have selected. Printing at 180 dpi will give the output a jagged look. Changing the resolution to 360 dpi should correct this problem.

Colour printing problems

This section contains solutions for problems you may encounter when printing in colour.

Printer prints only in black-and-white

If you are printing from a software application that supports colour printing but your output is only in black ink, follow these steps.

1. Make sure that you selected the BJC-50 printer driver or a compatible driver for another colour printer.
2. When you print from a DOS software application, make sure that you use the BJC-50 printer driver, or you use a compatible driver for another colour printer and the printer is set to **LQ** mode.
3. Make sure the colour ink cartridge still contains ink to print the Nozzle Check Pattern. (☞45) If any part of the colour pattern is blank, the colour ink cartridge has run out of ink. Replace the empty ink cartridge. (☞66)

Colours are broken or uneven

If colours are broken, uneven, or vary from line to line, follow these steps.

1. The print mode may be inappropriate for your graphics resolution. If you are printing high-density graphics, set the printer driver to **Fine** mode.
2. If you are generating a thin line in a non-primary colour (not cyan, magenta, or yellow), the software may tell the printer to dither the line by printing alternate coloured dots and blank white areas. To correct this, choose cyan, magenta, or yellow.
3. Make sure the colour ink cartridge still contains ink to print the Nozzle Check Pattern. (☞45) If any part of the colour pattern is blank, the colour ink cartridge has run out of ink. Replace the empty ink cartridge. (☞66)

Colours print incorrectly

If the colours in your printout do not match the colours on your screen, verify that you have selected the BJC-50 printer driver or a compatible driver.

Some colours are impossible to match exactly. The printer will match as closely as possible.

Printing is slow

If your printer seems extremely slow when printing in colour, follow these steps to improve the printing speed.

1. Make sure that you are using only one software application at a time.
2. Limit the number of colours on each page.
3. Use primary colours (cyan, magenta, yellow, and black) as much as possible.
4. Print at a lower resolution.
5. Increase the amount of memory in your computer.
6. Upgrade to a computer with a higher processing speed.
7. If you are using a screen saver, turn it off.
8. If you are using IrDA communications, print speed can be improved by using the parallel interface (with the printer cable).

Other printing problems

This section contains solutions for printer and printer driver problems.

Strange characters

If strange characters appear in your output, there may be a communication problem between the printer and your computer. If your printout does not match your expectations, follow the procedure below:

1. Shut down the print job. Switch off the printer and switch off the computer.
2. Switch the printer on and switch the computer on.
3. If the print job does not execute normally, check the printer cable.
   - To connect the printer to an IBM compatible PC, a Canon Printer Cable BIFC-50 is required.
   - Do not use the printer near office equipment or machinery that can generate large magnetic fields.
   - If the computer and printer are not directly connected (if they are connected through a switching device, or network, for example), connect the computer and printer directly.
4. If you are using Windows 98, Windows 95 or Windows 3.1, confirm that you are using the correct printer driver.
   - Make sure you have installed the BJC-50 printer driver.
   - Make sure you have selected the BJC-50 printer driver for the print job.
   - Check the printer setup and make sure LPT1 has been selected for the printer port. If WPS is selected as the printer port, remove it from the list of printer ports or reassign it to FILE. For details, refer to the *Windows Print Guide* or your Windows 98, Windows 95 or Windows 3.1 instructions.
5. Start the print job again.

Printing job halts before completion

1. Open the printer driver.
2. Check the port setting.

   If you are using Windows 98/Windows 95, go on to the next step.

   -or-

   If you are using Windows 3.1, go to step 4.
3. At the startup screen of Windows 98/Windows 95, click the Start button. Click Settings then click Printers.
   - Use the right mouse button to click on the BJC-50 icon then click properties.
   - Click the Details tab to open the Details control sheet. Check the port assignment in the first box.
   - If there is a WPS driver installed, make sure that this WPS driver is not installed for the same port as the BJC-50. If the WPS driver is installed for the same port as the BJC-50 printer driver, disable the WPS driver temporarily by assigning it the FILE port, or delete the WPS driver.
4. In the Program Manager of Windows 3.1, click Main then click Control Panel.
   - If you need to change the port assignment, highlight BJC-50 in the list of Installed Printers and click the Connect button. Select a new port assignment from the list of Ports.

   For details, refer to *Windows Print Guide* or your Windows 98/Windows 95 or Windows 3.1 instructions

Characters on the screen do not match printed characters

Special symbols and graphics codes may be mapped to different ASCII codes by different computers and printers. Compare the character set in your computer manual with the printer character set shown in Appendix B.

Printing beyond edge of page

If the printer is printing only part of each line, try the following measures.

1. Make sure the paper is aligned correctly with the left side of the feed slot.
2. Check the software application's setting for the right margin.

The printer may print on the platen when this problem occurs. Clean the printer platen before starting your print job. (☞79)

IrDA printing stops and paper is ejected

If printing via the IrDA interface suddenly stops, try the following measures.

1. Make sure communication via IrDA is not blocked. (☞23)
2. Make sure the IrDA port is clean. Use only a soft, clean cloth to clean IrDA port.

Printer prints incorrect number of lines on a page

If too few or too many lines are printed on the page, follow the procedure below.

1. Check the software application's page length and top/bottom margin settings.
2. Make sure the paper is loaded correctly.

Computer indicates a device time-out

1. Make sure that the printer is on-line.
2. Make sure that the printer's printer cable is securely connected to both the printer and the computer.

Printouts are incomplete (only 50% to 75% of the page) or printed with large white bands

On Windows 98/Windows 95, make sure Compatible or Bi-directional is selected for the parallel printer port (LPT1).

Where to Find More Help

In the event that you cannot solve a problem with the BJC-50 printer, review the Troubleshooting section which appears earlier in this chapter. If you still cannot resolve the problem, contact the appropriate Canon office listed below:

Australia
Canon Australia Pty Ltd.
1 Thomas Holt Drive
North Ryde, Sydney,
N.S.W. 2113, Australia
TEL: 02-9805-2864
Web page: http://www.canon.com.au

Canada
Canon Canada Inc.
6390 Dixie Road
Mississauga, Ontario, L5T 1P7, Canada
Help Desk at 1-800-263-1121

France
Canon France S.A.
17, Quai du Président Paul Doumer,
92414 Courbevoie Cedex, France
Standard: 01. 41. 99. 77. 77
Télécopie: 01. 41. 99. 79. 51
Hot Line: 01. 41. 99. 70. 70
Web page: http://www.canon.fr

Germany
Canon Deutschland GmbH
Postfach 528, 47705 Krefeld, Germany
CANON-Hotline-Service
Customer Support: 02151/349-555
Info-Desk: 02151-349-566
Mailbox: 02151/349-577
Fax-No.: 02151/349-588

Hong Kong, Taiwan, China
Canon Hongkong Co., Ltd.
10/F., Lippo Sun Plaza 28 Canton Road
Tsimshatsui, Kowloon
Hong Kong
TEL: 852-2739-0802
FAX: 852-2739-6428
Web page: http://www.canon-asia.com

India (and other southeast Asian countries)
Canon Singapore Pte. Ltd.
79 Anson Road, #09-01/06
Singapore 079906
TEL: 65-5324400
FAX: 65-2217577
Web page: http://www.canon-asia.com

Indonesia
P.T. Datascrip
Kawasan Niaga Selatan,
Bandar Kemayoran Jakarta 10610
TEL: (62-21) 6544515
Hotline: (62-21) 6544774
FAX: (62-21) 6544811-13
Web page: http://www.canon-asia.com

Korea
Lotte Canon Co., Ltd.
Headquarters:
Taehwa Bldg. #996-15
Daech-3 Dong Kangnam-Ku, Seoul
Korea
TEL: 02-3450-0700
FAX: 02-558-4365
Customer Information Center:
TEL: 02-562-9133
FAX: 02-3450-0788
Clover Service:
TEL: 080-987-8585

Malaysia
Canon Marketing (Malaysia) Sdn. Bhd.
13A, Jalan 219, 46100 Petaling Jaya
Selangor Darul Ehsan
Malaysia
TEL: 603-7577210
FAX: 603-7570948
Web page: http://www.canon.com.my
New Zealand
Canon New Zealand Ltd.
Fred Thomas Drive, Takapuna
P.O. Box 33-336
Auckland, New Zealand
TEL: 0800-222-666
Web page: http://www.canon.com.au

Philippines
Canon Marketing (Philippines) Inc.
Marvin Plaza Building
2153 Don Chino Roces Ave
Makati City
TEL: 632-812-6047, 632-812-6285
FAX: 632-812-0067
Web page: http://www.canon-asia.com

Singapore
Canon Marketing Services Pte. Ltd.
2 Alexandra Road, #04-01A
Delta House
Singapore 159919
TEL: 65-273-5311
FAX: 65-273-3317
Web page: http://www.canon.com.sg

Thailand
Canon Marketing (Thailand) Co. Ltd.
2nd Floor Indosuez House
152 Wireless Road
Bangkok 10330
Thailand
TEL: 66-2-6514000
FAX: 66-2-6514095
Web page: http://www.canon-asia.com

United Kingdom
Canon (UK) Ltd.
Canon House, Manor Road, Wallington,
Surrey, SM6 0AJ, United Kingdom
For technical support, please contact Canon
Helpdesk:
P.O. Box 431, Wallington, Surrey SM6 0XU
TEL: (0990) 143723 (Calls may be recorded)
FAX: (0990) 143340
BBS (24 hrs): (0990) 143350
For sales enquiries, please call on:
(0121) 666-6262

United States
Canon Computer Systems, Inc.
2995 Redhill Ave.
Costa Mesa, CA92626-5048
U.S.A.
TEL: 1-800-423-2366
FAX: 714-438-3099
Web page: http://www.ccsi.canon.com

Appendix A

Paper Specifications

Paper size

Letter	8.5 x 11 in.
Legal	8.5 x 14 in.
A4	210 x 297 mm
A5	148 x 210 mm
B5	182 x 256 mm
US Commercial 10 envelope	9.5 x 4.1 in.
European DL size envelope	220 x 110 mm

Paper type

Media Name	Media Type*
Plain paper	Plain Paper
Bubble Jet Paper LC-301	Plain Paper
Glossy Photo Paper GP-301	Glossy Paper
Glossy Photo Cards FM-101	Glossy Photo Cards
High Resolution Paper HR-101	Coated Paper
Transparency CF-102	Transparency
High Gloss Film HG-101	High Gloss Film
Back Print Film BF-102	Back Print Film
Fabric Sheet FS-101	Fabric Sheet
T-Shirt Transfer TR-201**	T-Shirt Transfer

* This is the name of the Media Type you will see after you pull down the list for Media Type on the Paper control sheet of the Windows printer driver.

** TR-101 in the U.S.

Paper weight

64 to 105 gsm (17 to 28 lb.)

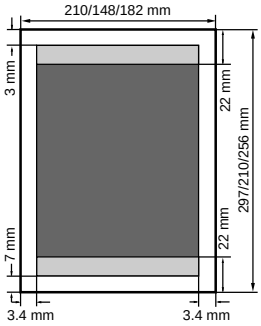
Printing area

Paper and special media

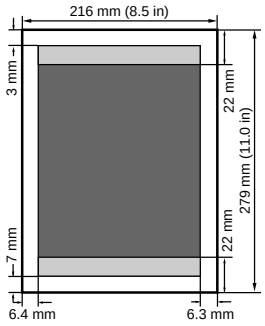
The shaded portion in the following figure shows the recommended printing area for paper and special media. The printer's mechanical printing area is inside the 3 mm top/bottom margins. However, we recommend setting the margins greater than 22 mm because the print quality degrades below this.

Before you print on Fabric Sheet FS-101, set the paper size for Legal. The printing area may vary according to settings in the printer driver. The margins and printable areas for Fabric Sheet are shown below.

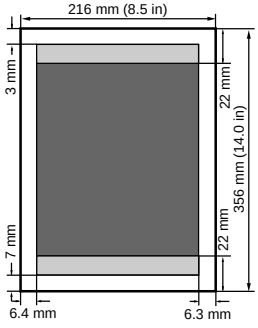
A4/A5/B5 size



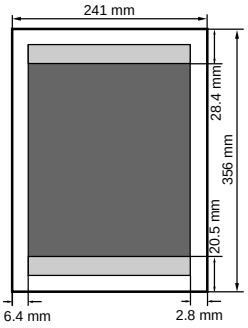
Letter size



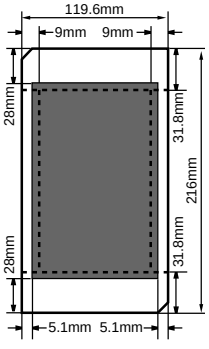
Legal size



Fabric Sheet FS-101



Glossy Photo Cards FM-101



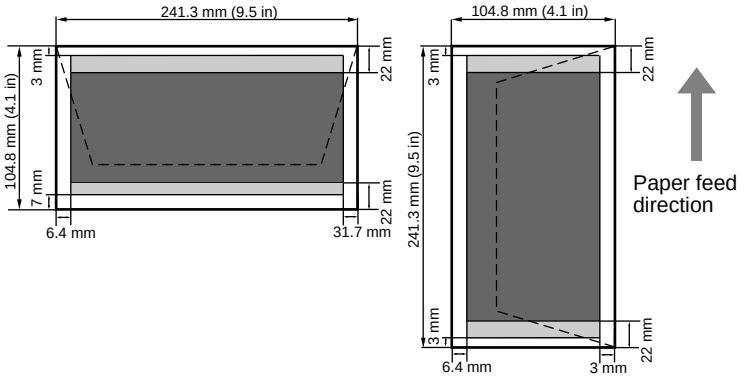
Envelopes

The shaded portion in the figures below shows the recommended printing areas for a US Commercial No. 10 envelope (9.5 x 4.1 in) and European DL size envelope (220 x 110 mm). The printer's maximum mechanical printing area is inside the top and bottom margins. However, we recommend setting the margins wider than 22 mm because print quality degrades below this.

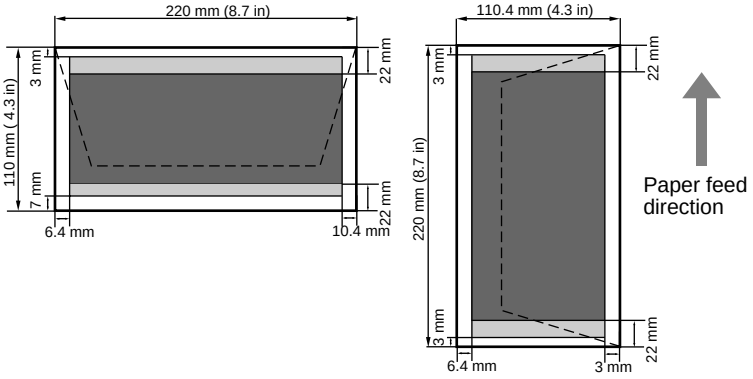
Note

The size of the printing area may vary according to settings done with the printer driver.

U.S. Commercial 10 size



European DL size



A

Appendix B

Code Pages and Character Sets

This section presents information on the character code pages and character sets supported by your printer. The character sets accessed by your printer at any time are determined by the printer control mode being used: BJ mode or LQ mode.

Code pages

Your printer supports ten code pages. By selecting a code page, you can print characters and symbols in the following languages.

Type	Code Page No.
USA English	Code Page 437
Multilingual (Latin I)	Code Page 850*
Slavic (Latin II)	Code Page 852
Cyrillic (Russian)	Code Page 855
Turkish	Code Page 857
Portuguese	Code Page 860
Canadian French	Code Page 863
Arabic	Code Page 864
Nordic	Code Page 865
Greek	Code Page 869

* Multilingual means that you can print most European languages when you select this code page.

The code page tables are shown on the following pages.

USA English –– Code Page 437

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	╨ 208	α 224	≡ 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▓ 177	┴ 193	╤ 209	ß 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	■ 178	┬ 194	╥ 210	Γ 226	≥ 242	0010
3	♥ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≤ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	û 150	ª 166	╢ 182	╞ 198	╓ 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	º 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	Θ 233	• 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	¢ 155	½ 171	╗ 187	╦ 203	█ 219	δ 235	√ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	¦ 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252	1100
D	♪ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	ì 141	¥ 157	¡ 173	╜ 189	═ 205	▌ 221	∅ 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Pts 158	« 174	╛ 190	╬ 206	▐ 222	∈ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Å 143	ƒ 159	» 175	┐ 191	╧ 207	▀ 223	∩ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

*Multilingual(Latin I) –– Code Page 850**

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	ð 208	Ó 224	‒ 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▓ 177	┴ 193	Ð 209	ß 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	■ 178	┬ 194	Ê 210	Ô 226	= 242	0010
3	♥ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	¾ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	È 212	õ 228	¶ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	Á 181	┼ 197	ı 213	Õ 229	§ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	û 150	ª 166	Â 182	ã 198	Í 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	º 167	À 183	Ã 199	Î 215	þ 231	¸ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	© 184	╚ 200	Ï 216	Þ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	® 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Û 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	ø 155	½ 171	╗ 187	╦ 203	█ 219	Ù 235	¹ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	¦ 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	ý 236	³ 252	1100
D	♪ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	ì 141	Ø 157	¡ 173	¢ 189	═ 205	¦ 221	Ý 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	× 158	« 174	¥ 190	╬ 206	Ì 222	¯ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Å 143	ƒ 159	» 175	┐ 191	¤ 207	▀ 223	´ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Slavic (Latin II) –– Code Page 852

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	ð 208	Ó 224	– 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	Ĺ 145	í 161	▓ 177	┴ 193	Đ 209	ß 225	˝ 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Í 146	ó 162	■ 178	┬ 194	Ď 210	Ô 226	˛ 242	0010
3	♥ 3	!! 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	┃ 179	├ 195	Ë 211	Ń 227	ˇ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	Ą 164	┤ 180	─ 196	ď 212	ń 228	˘ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	ů 133	Ľ 149	ą 165	Á 181	┼ 197	Ň 213	ň 229	§ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	ć 134	ľ 150	Ž 166	Â 182	Ă 198	Í 214	Š 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	Ś 151	ž 167	Ě 183	ă 199	Î 215	š 231	¸ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ł 136	ś 152	Ę 168	Ş 184	╚ 200	ě 216	Ř 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	ę 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	Ő 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	ŕ 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ő 139	Ť 155	ź 171	╗ 187	╦ 203	■ 219	Ű 235	ű 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	ł 124	î 140	ť 156	Č 172	╝ 188	╠ 204	▄ 220	ý 236	Ř 252	1100
D	♪ 13	↔ 29	– 45	= 61	M 77	] 93	m 109	} 125	Ź 141	Ł 157	ş 173	Ž 189	═ 205	Ţ 221	Ý 237	ř 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	× 158	<< 174	ż 190	╬ 206	Ů 222	ţ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Ć 143	č 159	>> 175	¬ 191	¤ 207	▀ 223	´ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Cyrillic (Russian) –– Code Page 855

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	ђ 128	љ 144	а 160	▒ 176	└ 192	л 208	Я 224	- 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	Ђ 129	Љ 145	А 161	▓ 177	┴ 193	Л 209	р 225	ы 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	ѓ 130	њ 146	б 162	■ 178	┬ 194	М 210	Р 226	Ы 242	0010
3	♥ 3	!! 19	# 35	3 51	C 67	S 83	c 99	s 115	Ѓ 131	Њ 147	Б 163	┃ 179	├ 195	М 211	с 227	з 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ё 132	ћ 148	ц 164	┤ 180	─ 196	н 212	С 228	З 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	Ё 133	Ћ 149	Ц 165	х 181	┼ 197	Н 213	т 229	ш 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	є 134	ќ 150	д 166	Х 182	к 198	о 214	Т 230	Ш 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	Є 135	Ќ 151	Д 167	и 183	К 199	О 215	у 231	э 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ѕ 136	ў 152	е 168	И 184	╚ 200	п 216	У 232	Э 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	Ѕ 137	Ў 153	Е 169	╣ 185	╔ 201	┘ 217	ж 233	щ 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	і 138	џ 154	ф 170	‖ 186	╩ 202	┌ 218	Ж 234	Щ 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	І 139	Џ 155	Ф 171	╗ 187	╦ 203	■ 219	в 235	ч 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	ї 140	ю 156	г 172	╝ 188	╠ 204	▄ 220	В 236	Ч 252	1100
D	♪ 13	↔ 29	– 45	= 61	M 77	] 93	m 109	} 125	Ї 141	Ю 157	Г 173	й 189	═ 205	П 221	ь 237	§ 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	j 142	ъ 158	<< 174	Й 190	╬ 206	я 222	Ь 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	J 143	Ъ 159	>> 175	¬ 191	¤ 207	▀ 223	№ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Turkish –– Code Page 857

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	⩊ 208	Ó 224	– 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▓ 177	┴ 193	a̲ 209	ß 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	■ 178	┬ 194	Ê 210	Ô 226	242	0010
3	♥ 3	!! 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	¾ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	È 212	ő 228	¶ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	Á 181	┼ 197	213	Õ 229	§ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	û 150	Ğ 166	Â 182	ã 198	Í 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	ğ 167	À 183	Ã 199	Î 215	231	¸ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	İ 152	¿ 168	© 184	╚ 200	Ï 216	× 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	® 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Û 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	ø 155	½ 171	╗ 187	╦ 203	█ 219	Ù 235	¹ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	ì 236	³ 252	1100
D	♪ 13	↔ 29	‒ 45	= 61	M 77	] 93	m 109	} 125	ı 141	Ø 157	¡ 173	¢ 189	═ 205	¦ 221	ÿ 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Ş 158	<< 174	¥ 190	╬ 206	Ì 222	‒ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Å 143	ş 159	>> 175	┐ 191	¤ 207	▀ 223	´ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Portuguese –– Code Page 860

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	⩊ 208	α 224	≡ 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	À 145	í 161	▓ 177	┴ 193	╤ 209	ß 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	È 146	ó 162	■ 178	┬ 194	╥ 210	Γ 226	≥ 242	0010
3	♥ 3	!! 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≤ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ã 132	õ 148	ñ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	Á 134	Ú 150	ğ 166	╢ 182	╞ 198	╓ 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	Ğ 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	Ì 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	Ê 137	Õ 153	Ò 169	╣ 185	╔ 201	┘ 217	Θ 233	• 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	Í 139	¢ 155	½ 171	╗ 187	╦ 203	█ 219	δ 235	√ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	Ô 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252	1100
D	♪ 13	↔ 29	‒ 45	= 61	M 77	] 93	m 109	} 125	ì 141	Ù 157	¡ 173	╜ 189	═ 205	▌ 221	∅ 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ã 142	Pt 158	<< 174	╛ 190	╬ 206	▌ 222	∈ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Â 143	Ó 159	>> 175	┐ 191	╧ 207	▀ 223	∩ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Canadian French –– Code Page 863

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	¦ 160	▒ 176	└ 192	╨ 208	α 224	≡ 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	È 145	´ 161	▓ 177	┴ 193	╤ 209	ß 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Ê 146	ó 162	■ 178	┬ 194	╥ 210	Γ 226	≥ 242	0010
3	♥ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≤ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	Â 132	Ë 148	¨ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	Ï 149	‗ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	¶ 134	û 150	ɜ 166	╢ 182	╞ 198	╓ 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	¯ 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	¤ 152	Î 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ô 153	⌐ 169	╣ 185	╔ 201	┘ 217	Θ 233	• 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	¢ 155	½ 171	╗ 187	╦ 203	█ 219	δ 235	√ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252	1100
D	♪ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	ì 141	Ù 157	¾ 173	╜ 189	═ 205	▌ 221	∅ 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Û 158	« 174	╛ 190	╬ 206	▐ 222	∈ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	§ 143	ƒ 159	» 175	┐ 191	╧ 207	▀ 223	∩ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Arabic –– Code Page 864

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	° 128	ß 144	160	٠ 176	¢ 192	ذ 208	ـ 224	ـً 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	· 129	∞ 145	– 161	١ 177	ء 193	ر 209	ف 225	ّ 241	0001
2	♪ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	• 130	∅ 146	آ 162	٢ 178	أ 194	ز 210	ق 226	ْ 242	0010
3	♫ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	√ 131	± 147	£ 163	٣ 179	إ 195	س 211	ك 227	ٌ 243	0011
4	☼ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	▒ 132	½ 148	¤ 164	٤ 180	ؤ 196	ش 212	ل 228	ٍ 244	0100
5	═ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	— 133	¼ 149	ـ 165	١ 181	ع 197	ص 213	م 229	ً 245	0101
6	╬ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	┃ 134	≈ 150	166	آ 182	ئ 198	ض 214	ن 230	ٌ 246	0110
7	╪ 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	┼ 135	« 151	167	٧ 183	ا 199	ط 215	ه 231	ٍ 247	0111
8	╣ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	┤ 136	» 152	ـ 168	٨ 184	ب 200	ظ 216	و 232	ق 248	1000
9	╦ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	╤ 137	لآ 153	ب 169	٩ 185	ة 201	ع 217	ى 233	لآ 249	1001
A	╩ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	├ 138	لأ 154	ت 170	ف 186	ت 202	غ 218	ي 234	لأ 250	1010
B	╨ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	┴ 139	155	ث 171	، 187	ث 203	┤ 219	ظ 235	ـ 251	1011
C	╗ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	¬ 140	156	، 172	س 188	← 204	¬ 220	ـ 236	ـْ 252	1100
D	╔ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	┌ 141	لا 157	ج 173	ش 189	↔ 205	÷ 221	ـ 237	ي 253	1101
E	╚ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	└ 142	لإ 158	ح 174	ص 190	↓ 206	× 222	غ 238	■ 254	1110
F	╝ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	┘ 143	ـ 159	خ 175	؟ 191	د 207	ع 223	م 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Nordic –– Code Page 865

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	╨ 208	α 224	≡ 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▓ 177	┴ 193	╤ 209	β 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	■ 178	┬ 194	╥ 210	Γ 226	≥ 242	0010
3	♥ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≤ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	û 150	ª 166	╢ 182	╞ 198	╓ 214	µ 230	÷ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	º 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	Θ 233	• 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	ø 155	½ 171	╗ 187	╦ 203	█ 219	δ 235	√ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252	1100
D	♪ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	ì 141	Ø 157	¡ 173	╜ 189	═ 205	▌ 221	∅ 237	² 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Pts 158	<< 174	╛ 190	╬ 206	▐ 222	∈ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	_ 95	o 111	⌂ 127	Å 143	ƒ 159	¤ 175	┐ 191	╧ 207	▀ 223	∩ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Greek –– Code Page 869

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Ø 0	▶ 16	SP 32	0 48	@ 64	P 80	` 96	p 112	128	΄Ι 144	ΰ 160	▒ 176	└ 192	Τ 208	ζ 224	– 240	0000
1	☺ 1	◀ 17	! 33	1 49	A 65	Q 81	a 97	q 113	129	Ϊ 145	΅ 161	▓ 177	┴ 193	Υ 209	η 225	± 241	0001
2	☻ 2	↕ 18	" 34	2 50	B 66	R 82	b 98	r 114	130	Ό 146	ό 162	■ 178	┬ 194	Φ 210	ϑ 226	υ 242	0010
3	♥ 3	‼ 19	# 35	3 51	C 67	S 83	c 99	s 115	131	147	ύ 163	│ 179	├ 195	Χ 211	ι 227	φ 243	0011
4	♦ 4	¶ 20	$ 36	4 52	D 68	T 84	d 100	t 116	132	148	Α 164	┤ 180	─ 196	Ψ 212	κ 228	χ 244	0100
5	♣ 5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	133	Ύ 149	Β 165	Κ 181	┼ 197	Ω 213	λ 229	§ 245	0101
6	♠ 6	▬ 22	& 38	6 54	F 70	V 86	f 102	v 118	Ά 134	Ϋ 150	Γ 166	Λ 182	Π 198	α 214	μ 230	ψ 246	0110
7	• 7	↨ 23	' 39	7 55	G 71	W 87	g 103	w 119	135	© 151	Δ 167	Μ 183	Ρ 199	β 215	ν 231	΄ 247	0111
8	◘ 8	↑ 24	(40	8 56	H 72	X 88	h 104	x 120	· 136	Ώ 152	Ε 168	Ν 184	╚ 200	γ 216	ξ 232	° 248	1000
9	○ 9	↓ 25	) 41	9 57	I 73	Y 89	i 105	y 121	¬ 137	² 153	Ζ 169	╣ 185	╔ 201	┘ 217	ο 233	¨ 249	1001
A	◙ 10	→ 26	* 42	: 58	J 74	Z 90	j 106	z 122	¦ 138	³ 154	Η 170	║ 186	╩ 202	┌ 218	π 234	ω 250	1010
B	♂ 11	← 27	+ 43	; 59	K 75	[91	k 107	{ 123	΄ 139	ά 155	½ 171	╗ 187	╦ 203	█ 219	ρ 235	ϋ 251	1011
C	♀ 12	∟ 28	, 44	< 60	L 76	\ 92	l 108	| 124	¸ 140	£ 156	Θ 172	╝ 188	╠ 204	▄ 220	σ 236	ύ 252	1100
D	♪ 13	↔ 29	- 45	= 61	M 77	] 93	m 109	} 125	Έ 141	έ 157	Ι 173	Ξ 189	═ 205	δ 221	ς 237	ώ 253	1101
E	♫ 14	▲ 30	. 46	> 62	N 78	^ 94	n 110	~ 126	— 142	ή 158	<< 174	Ο 190	╬ 206	ε 222	τ 238	■ 254	1110
F	☼ 15	▼ 31	/ 47	? 63	O 79	‗ 95	o 111	⌂ 127	Ή 143	ί 159	>> 175	┐ 191	Σ 207	▀ 223	΄ 239	SP 255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Character sets

BJ mode

Each of the ten code pages, 437, 850, 852, 855, 857, 860, 863, 864, 865 and 869 can be changed to three character sets: Set 1, Set 2 and All Characters Chart. The code page tables shown on the previous pages are All Characters Charts.

Each of the 10 code pages corresponds to an All Characters Chart. For the All Characters Chart, there are no control codes except for the space code at ASCII 32. All other ASCII characters are printable. The All Characters Chart is selected by using the ESC ^ or the ESC \ code.

Character Set 1 has control codes in two places:

- Between ASCII 0 and ASCII 31 (Hex 00h and Hex 1Fh)
- Between ASCII 128 and ASCII 159 (Hex 80h and Hex 9Fh)

Character Set 2 has control codes in only one place, between ASCII 0 and ASCII 31 (Hex 00h and Hex 1Fh).

A control code is an unprintable character that the printer uses for printer operations such as line spacing or carriage returns.

The tables on the following pages show the differences between Character Set 1 and Set 2 from the All Characters Chart. The example below is from Code Page 437 U.S.A. English.

Hex No.	All Character Chart	Character Set 1	Character Set 2
00	Ø	NUL	NUL
01	☺		
02	☻		
03	♥		♥
04	♦		♦
05	♣		♣
06	♠		♠
07	•	BEL	BEL
08	◘	BS	BS
09	○	HT	HT
0A	◙	LF	LF
0B	♂	VT	VT
0C	♀	FF	FF
0D	♪	CR	CR
0E	♫	SO	SO
0F	☼	SI	SI

Hex No.	All Character Chart	Character Set 1	Character Set 2
10	►		
11	◄	DC1	DC1
12	↕	DC2	DC2
13	!!		
14	¶	DC4	DC4
15	§		§
16	▬		
17	↨		
18	↑	CAN	CAN
19	↓		
1A	→		
1B	←	ESC	ESC
1C	∟	FS	FS
1D	↔		
1E	▲		
1F	▼		

Hex No.	All Character Chart	Character Set 1	Character Set 2
80	Ç		Ç
81	ü		ü
82	é		é
83	â		â
84	ä		ä
85	à		à
86	å		å
87	ç	BEL	ç
88	ê	BS	ê
89	ë	HT	ë
8A	è	LF	è
8B	ï	VT	ï
8C	î	FF	î
8D	ì	CR	ì
8E	Ä	SO	Ä
8F	Å	SI	Å

Hex No.	All Character Chart	Character Set 1	Character Set 2
90	É		É
91	æ	DC1	æ
92	Æ	DC2	Æ
93	ô		ô
94	ö	DC4	ö
95	ò		ò
96	û		û
97	ù		ù
98	ÿ	CAN	ÿ
99	Ö		Ö
9A	Ü		Ü
9B	¢	ESC	¢
9C	£	FS	£
9D	¥		¥
9E	Pts		Pts
9F	*f*		*f*

LQ mode

In LQ mode, your printer can select one of eight International Character Sets, one of ten code pages, and one of two character tables: the EPSON Italics and the EPSON Graphics character tables.

International character sets

By selecting an International Character Set, you can print characters and symbols of eight different countries or languages: USA, UK, Germany, France, Denmark, Sweden, Italy, and Spain.

When you want to print other languages, select the appropriate code page. The printer supports many code pages: USA 437, Multilingual* (Latin I) 850, Slavic (Latin II) 852, Cyrillic (Russian) 855, Turkish 857, Portuguese 860, Canadian French 863, Arabic 864, Nordic 865, and Greek 869. (☞102)

When you select a code page to print characters and symbols of your language, be sure to select the Graphics character table. Otherwise, the characters and symbols between ASCII 128 and ASCII 255 are changed to italic characters.

* Multilingual means that you can print most European languages when you select this code page. However, in LQ mode, if you want to print the languages supported by the printer in the International Character Sets, select the appropriate International Character Set and select USA 437 code page.

The table below shows the International Character Sets.

Country \ Hex / Dec		23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E	A3	A4	C0	DB	DC	DD	DE	E0	FB	FC	FD	FE
		35	36	64	91	92	93	94	96	123	124	125	126	163	164	192	219	220	221	222	224	251	252	253	254
0	U.S.A	#	$	@	[	\	]	^	`	{	¦	}	~	#	$	@	[	\	]	^	`	{	¦	}	~
1	France	#	$	à	°	ç	§	^	`	é	ù	è	¨	#	$	à	°	ç	§	^	`	é	ù	è	¨
2	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
3	U.K	£	$	@	[	\	]	^	`	{	¦	}	~	£	$	@	[	\	]	^	`	{	¦	}	~
4	Denmark I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
5	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì	#	$	@	°	\	é	^	ù	à	ò	è	ì
7	Spain I	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
8	Japan	#	$	@	[	¥	]	^	`	{	¦	}	~	#	$	@	[	¥	]	^	`	{	¦	}	~
9	Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
11	Spain II	#	$	á	¡	Ñ	¿	é	`	Í	ñ	ó	ú	#	$	á	¡	Ñ	¿	é	`	Í	ñ	ó	ú
12	Latin America	#	$	á	¡	Ñ	¿	é	ü	Í	ñ	ó	ú	#	$	á	¡	Ñ	¿	é	ü	Í	ñ	ó	ú
13	Korea	#	$	@	[	₩	]	^	`	{	¦	}	~	#	$	@	[	₩	]	^	`	{	¦	}	~
64	Legal	#	$	§	°	'	"	¶	`	©	®	†	™	#	$	§	°	'	"	¶	`	©	®	†	™

The international character sets 8 to 13, and 64 can be selected only by using the escape code ESC R.

EPSON character tables

Two character tables—the Italics character table and the Graphics character table—are available in LQ mode. The Italics character table has control codes in two places: between ASCII 0 and ASCII 31 and also between ASCII 128 and ASCII 159. In addition, in the Italics character table, characters between ASCII 160 and ASCII 255 are italic characters of characters between ASCII 0 and ASCII 127, whatever code page you select.

The Graphics character table has control codes only in one place: between ASCII 0 and ASCII 31. All other characters are printable. The characters between ASCII 32 and ASCII 126 are always as shown in the table on the next page. The characters between ASCII 128 and ASCII 255 vary depending on your selected code page. The Graphics character table shown on the next page is for when the code page is set to 437 USA.

The control codes between ASCII 0 and ASCII 31 can be changed to printable characters by using the ESC (^ control code.

When you select a code page to print characters and symbols of your language, select the Graphics character table. Otherwise, the characters and symbols between ASCII 128 and ASCII 255 are changed to Italics characters.

The tables below show the Italics character table and the Graphics character table.

Italics Character Table

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	NUL 0	16	SP 32	0 48	@ 64	P 80	‘ 96	p 112	NUL 128	144	SP 160	*0* 176	*@* 192	*P* 208	*’* 224	*p* 240	0000
1	1	DC1 17	! 33	1 49	A 65	Q 81	a 97	q 113	129	DC1 145	*!* 161	*1* 177	*A* 193	*Q* 209	*a* 225	*q* 241	0001
2	2	DC2 18	” 34	2 50	B 66	R 82	b 98	r 114	130	DC2 146	*”* 162	*2* 178	*B* 194	*R* 210	*b* 226	*r* 242	0010
3	3	DC3 19	# 35	3 51	C 67	S 83	c 99	s 115	131	DC3 147	*#* 163	*3* 179	*C* 195	*S* 211	*c* 227	*s* 243	0011
4	4	DC4 20	$ 36	4 52	D 68	T 84	d 100	t 116	132	DC4 148	*$* 164	*4* 180	*D* 196	*T* 212	*d* 228	*t* 244	0100
5	5	21	% 37	5 53	E 69	U 85	e 101	u 117	133	149	*%* 165	*5* 181	*E* 197	*U* 213	*e* 229	*u* 245	0101
6	6	22	& 38	6 54	F 70	V 86	f 102	v 118	134	150	*&* 166	*6* 182	*F* 198	*V* 214	*f* 230	*v* 246	0110
7	BEL 7	23	’ 39	7 55	G 71	W 87	g 103	w 119	BEL 135	151	’ 167	*7* 183	*G* 199	*W* 215	*g* 231	*w* 247	0111
8	BS 8	CAN 24	(40	8 56	H 72	X 88	h 104	x 120	BS 136	CAN 152	*(* 168	*8* 184	*H* 200	*X* 216	*h* 232	*x* 248	1000
9	HT 9	EM 25	) 41	9 57	I 73	Y 89	i 105	y 121	HT 137	EM 153	*)* 169	*9* 185	*I* 201	*Y* 217	*i* 233	*y* 249	1001
A	LF 10	26	* 42	: 58	J 74	Z 90	j 106	z 122	LF 138	154	* 170	*:* 186	*J* 202	*Z* 218	*j* 234	*z* 250	1010
B	VT 11	ESC 27	+ 43	; 59	K 75	[91	k 107	{ 123	VT 139	ESC 155	*+* 171	*;* 187	*K* 203	*[* 219	*k* 235	*{* 251	1011
C	FF 12	28	, 44	< 60	L 76	\ 92	l 108	¦ 124	FF 140	156	, 172	*<* 188	*L* 204	** 220	*l* 236	*¦* 252	1100
D	CR 13	29	– 45	= 61	M 77	] 93	m 109	} 125	CR 141	157	– 173	*=* 189	*M* 205	*]* 221	*m* 237	*}* 253	1101
E	SO 14	30	. 46	> 62	N 78	^ 94	n 110	~ 126	SO 142	158	. 174	*>* 190	*N* 206	*^* 222	*n* 238	*~* 254	1110
F	SI 15	31	/ 47	? 63	O 79	_ 95	o 111	DEL 127	SI 143	159	/ 175	*?* 191	*O* 207	*_* 223	*o* 239	255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Graphics Character Table

Hex No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	NUL 0	16	SP 32	0 48	@ 64	P 80	‘ 96	p 112	Ç 128	É 144	á 160	▒ 176	└ 192	╨ 208	α 224	≡ 240	0000
1	1	DC1 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▓ 177	┴ 193	╤ 209	ß 225	± 241	0001
2	2	DC2 18	” 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	■ 178	┬ 194	╥ 210	Γ 226	≥ 242	0010
3	3	DC3 19	# 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≤ 243	0011
4	4	DC4 20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244	0100
5	5	§ 21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245	0101
6	6	22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	û 150	a 166	╢ 182	╞ 198	╓ 214	μ 230	÷ 246	0110
7	BEL 7	23	’ 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	o 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247	0111
8	BS 8	CAN 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248	1000
9	HT 9	EM 25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	Θ 233	• 249	1001
A	LF 10	26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250	1010
B	VT 11	ESC 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	¢ 155	½ 171	╗ 187	╦ 203	■ 219	δ 235	√ 251	1011
C	FF 12	28	, 44	< 60	L 76	\ 92	l 108	¦ 124	î 140	£ 156	¼ 172	╝ 188	╠ 204	▄ 220	∞ 236	ⁿ 252	1100
D	CR 13	29	– 45	= 61	M 77	] 93	m 109	} 125	ì 141	¥ 157	¡ 173	╜ 189	═ 205	▌ 221	∅ 237	² 253	1101
E	SO 14	30	. 46	> 62	N 78	^ 94	n 110	~ 126	Ä 142	Pt 158	<< 174	╛ 190	╬ 206	▐ 222	∈ 238	■ 254	1110
F	SI 15	31	/ 47	? 63	O 79	_ 95	o 111	DEL 127	Å 143	ƒ 159	>> 175	┐ 191	╧ 207	▀ 223	∩ 239	255	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	Binary No.

Appendix C

Printer Command Summaries

Printer control codes are listed under each of the two printer control modes: BJ mode and LQ mode. Printer control codes tell the printer how to print a job.

You can send commands in several ways:

- You can use your software application to automatically embed certain commands (such as bold, underline, or indent) within a document. Your software application usually displays a symbol (such as B for bold) or changes the appearance of the displayed text to indicate the embedded commands. When the document prints, the embedded commands control the way the printer produces the printed page. See your software application manual for instructions on sending commands.
- You can send specific commands directly to the printer, using either a BASIC statement or a printer command option in your software application.

Entering a setup string in Lotus 1-2-3

The procedure for entering printer control commands in Lotus 1-2-3 is typical of the procedures used in spreadsheet software applications. If you are using another spreadsheet, review your application manual to determine if your software application supports printer option setups. Although the procedure to enter the codes may differ slightly, you will still have to enter the same number codes.

For a list of these codes, refer to the tables later in this appendix.

BJ mode example

This part shows that the decimal form the command to specify condensed text is 15 and the character form of the same command is SI. To access condensed (17 cpi) text in Lotus 1-2-3 when you are in BJ mode, follow this procedure.

Each number in the decimal form of the command must be three characters long, so you need to use a leading zero if the code is a two-digit number. A simple command might look like this:

\077

1. In Lotus 1-2-3, type **\PPOS** to open the printer option setup menu.
2. To use the decimal form, type **\015** to specify condensed text.

LQ mode example

Suppose you are working in LQ mode and want to print text at 12 cpi. In Appendix B you see that the decimal code for the command for 12 cpi is 27 77. Follow this procedure to specify 12 cpi printing in Lotus 1-2-3.

1. In Lotus 1-2-3, type **\PPOS** to access the printer option setup menu.
2. To enter the code in decimal format, type **\027\077**. Be sure to insert the leading zeros before the numbers so they are both three digits.

BJ mode command summary

All of the control codes shown in the following tables can be used in the BJ mode.

Because of hardware differences, the reverse feed code — ESC] and the printer deselect code — DC3 — are not supported by your printer. Also, the styles of block graphics characters at 12 cpi are different from normal Proprinter X24E printing.

Basic control codes

Function	ASCII	Dec.	Hex.
End command	NUL	0	00
Sound beeper	BEL	7	07
Backspace	BS	8	08
Horizontal tab control	HT	9	09
Move to next tab.			
Perform line feed	LF	10	0A
Vertical tab control	VT	11	0B
Move to next tab.			
Perform form feed	FF	12	0C
Carriage return	CR	13	0D
Set double-wide mode by line	SO	14	0E
Set condensed mode (17 cpi)	SI	15	0F
Cancel by DC2.			
Select printer	DC1	17	11
Set 10 cpi mode	DC2	18	12
Cancel double-wide mode	DC4	20	14
Cancel data	CAN	24	18
Insert space	SP	32	20
Delete character	DEL	127	7F

ESCape sequence codes

Function	ASCII	Dec.	Hex.
Set/cancel underscore mode	ESC _ n	27 45 n	1B 2D n
n = 0:End underscore			
n = 1:Start underscore			
Set 1/8 inch line spacing	ESC 0	27 48	1B 30
Set 7/72 inch line spacing	ESC 1	27 49	1B 31
Enable line spacing by ESC A	ESC 2	27 50	1B 32
Set graphics line spacing	ESC 3 n	27 51 n	1B 33 n
in n/216 inch increment when FUNCTION 12 is OFF;			
in n/180 inch increment when FUNCTION 12 is ON (AGM mode);			
n = 1 to 255			
Set top of form	ESC 4	27 52	1B 34
Set/cancel automatic line feed	ESC 5 n	27 53 n	1B 35 n
n = 0:End automatic line feed			
n = 1:Start automatic line feed			
Select Character Set 2	ESC 6	27 54	1B 36
Select Character Set 1	ESC 7	27 55	1B 37
Set 12 cpi mode	ESC :	27 58	1B 3A
24 dot font image download	ESC = n_1 n_2 id	27 61 n_1 n_2 id	1B 3D n_1 n_2 id
id = 35 or 36	r1 r2 data	r1 r2 data	r1 r2 data
48 dot font image download	ESC = n_1 n_2 id	27 61 n_1 n_2 id	1B 3D n_1 n_2 id
id = 37	r1 r2 data		
Set text line spacing *1	ESC A n	27 65 n	1B 41 n
in n/72 inch increment when FUNCTION 12 is OFF;			
in n/60 inch increment when FUNCTION 12 is ON (AGM mode);			
n = 1 to 255			

*1 • After text line spacing is set, use the ESC 2 code to enable text line spacing.

Function	ASCII	Dec.	Hex.
Set vertical tabs n1 ... n64 = line numbers for tab stops n = 1 to 255 lines	ESC B n_1...n_{64} NUL	0 27 66 n_1...n_{64} 0	1B 42 n_1...n_{64} 00
Set page length in lines *2 n = line numbers on a page n = 1 to 255	ESC C n	27 67 n	1B 43 n
Set page length in inches *2 n = inches for a page n = 1 to 255	ESC C NUL n	27 67 0 n	1B 43 00 n
Set horizontal tabs n1 ... n28 = columns for tab stops	ESC D n_1...n_{28} NUL	27 68 n_1...n_{28} 0	1B 44 n_1...n_{28} 00
Set emphasised mode	ESC E	27 69	1B 45
Cancel emphasised mode Cancel printing in twice the normal dot density. Set by ESC E.	ESC F	27 70	1B 46
Set double-strike mode	ESC G	27 71	1B 47
Cancel double-strike mode	ESC H	27 72	1B 48
Select font pitch and print mode	ESC I n *3	27 73 n	1B 49 n
Perform graphics line spacing Line spacing amount becomes n/216 when FUNCTION 12 is OFF; Line spacing amount becomes n/180 when FUNCTION 12 is ON; n = 0 to 255	ESC J n	27 74 n	1B 4A n
Set normal density image graphics mode	ESC K n_1 n_2 data	27 75 n_1 n_2 data	1B 4B n_1 n_2 data
Set double density image graphics mode	ESC L n_1 n_2 data	27 76 n_1 n_2 data	1B 4C n_1 n_2 data
Set perforation skip n = 1 to 255 lines	ESC N n	27 78 n	1B 4E n
Cancel perforation skip	ESC O	27 79	1B 4F

*2 Since the maximum page length for the printer is 20 inches, when the specified value is more than 20 inches, the page length is set to 20 inches.

*3 n = 0: Draft 10 cpi (default: created from Gothic 10 cpi)
n = 2: Letter Quality 10 cpi (Courier 10 cpi)
n = 3: Letter Quality Proportional (Courier Proportional)
n = 4: Download Draft 10 cpi
n = 6: Download Letter Quality 10 cpi
n = 7: Download Letter Quality Proportional
n = 8: Draft 12 cpi (created from Gothic 10 cpi)
n = 10: Letter Quality 12 cpi (created from Prestige 10 cpi)
n = 12: Download Draft 12 cpi (created from download Draft 10 cpi)
n = 14: Download Letter Quality 12 cpi
n = 16: Draft 17 cpi (created from Gothic 10 cpi)
n = 18: Download Letter Quality 17 cpi (created from Courier 10 cpi)
n = 20: Download Draft 17 cpi (created from download Draft 10 cpi)
n = 22: Download Letter Quality 17 cpi (created from download Letter Quality 10 cpi)
n=Else: Command ignored

- Internal fonts are used if the characters are not downloaded.
- When 48-dots font is downloaded and 2, 3, 10, or 18 is set to n, font created from the current font.
- When Draft font is selected using the printer control panel, the Courier font is used.

Function	ASCII	Dec.	Hex.
Set/cancel proportional spacing mode n = 0: End proportional spacing n = 1: Start proportional spacing	ESC P n	27 80 n	1B 50 n
Deselect printer n = 35, 36 or 37	ESC Q n	27 81 n	1B 51 n
Set all tabs to default setting	ESC R	27 82	1B 52
Set super/subscript mode Cancel by ESC T. n = 0: Select superscript mode n = 1: Select subscript mode	ESC S n	27 83	1B 53
Cancel super/subscript mode Set by ESC S.	ESC T	27 84	1B 54
Select print direction n = 0: Select bidirectional printing n = 1: Select unidirectional printing (default)	ESC U n	27 85 n	1B 55 n
Set/cancel double-wide mode n = 0: Cancel double-wide mode n = 1: Start double-wide mode	ESC W n	27 87 n	1B 57n
Set horizontal margins n: Define the left margin m: Define the right margin	ESC X n m	27 88 n m	1B 58 n m
Set double density image graphics mode	ESC Y n_1 n_2 data	27 89 n_1 n_2 data	1B 59 n_1 n_2 data
Set quadruple density image graphics mode	ESC Z n_1 n_2 data	27 90 n_1 n_2 data	1B 5A n_1 n_2 data
Set presentation highlight *4	ESC [@ n_1 n_2 m_1 m_2 m_3 m_4	27 91 64 n_1 n_2 m_1 m_2 m_3 m_4	1B 5B 40 n_1 n_2 m_1 m_2 m_3 m_4
Set initial condition n1: High-order byte specifies a code page n2: Low-order byte specifies a code page	ESC [K n_1 n_2 n_3 id p1 p2	27 91 75 n_1 n_2 n_3 id p1 p2	1B 5B 4B n_1 n_2 n_3 id p1 p2
Set code page	ESC [T 4 0 0 0 n_1 n_2	27 91 84 4 0 0 0 n_1 n_2	1B 5B 54 04 00 00 00 n_1 n_2
Change graphics line spacing	ESC [\ 4 0 0 0 n_1 n_2	27 91 92 4 0 0 0 n_1 n_2	1B 5B 5C 04 00 00 00 n_1 n_2
Select high resolution graphics mode	ESC [g n_1 n_2 m data	27 91 103 n_1 n_2 m data	1B 5B 67 n_1 n_2 m data

*4 Set or cancel the presentation highlight (double-high) mode.

ASCII ESC [@ n_1 n_2 m_1 m_2 m_3 m_4

DEC 27 91 64 n_1 n_2 m_1 m_2 m_3 m_4

HEX 1B 5B 40 n_1 n_2 m_1 m_2 m_3 m_4

The parameters are set as follows:

$n_1 = 4$ $n_2 = 0$ $m_1 = 0$ $m_2 = 0$

m_3 determines the character height and line feed amount:

m_3	Line Feed	Character Height
0	No change	No change
1	No change	Single high
2	No change	Double high
16	Normal line feed	No change
17	Normal line feed	Single high
18	Normal line feed	Double high
32	Double line feed	No change
33	Double line feed	Single high
34	Double line feed	Double high

m_4 determines character width:

$m_4 = 0$: No change $m_4 = 1$: Single wide

$m_4 = 2$: Double wide

Function	ASCII	Dec.	Hex.
Print continuously from All Characters Chart			
	ESC \ n_1 n_2 data	27 92 n_1 n_2 data	1B 5C n_1 n_2 data
Print single character from All Characters Chart			
	ESC ^	27 94	1B 5E
Set/cancel overscore mode	ESC _ n	27 95 n	1B 5F n
n = 0: Cancel overscore mode			
n = 1: Set overscore mode			
Relative move inline forward	ESC d n_1 n_2	27 100 n_1 n_2	1B 64 n_1 n_2
Set printer off-line	ESC j	27 106	1B 6A

C

Alternate Graphics Mode (AGM) codes

When AGM is set to ON, the following commands are available. When the AGM is not selected, the commands ESC 3, ESC A, and ESC J are used to set different line spacing.

Function	ASCII	Dec.	Hex.
Set graphics line spacing	ESC 3 n	27 51 n	1B 33 n
in n/180 increments; n=1 to 255			
Set text line spacing	ESC A n	27 65 n	1B 41 n
in n/60 inch per line; n=1 to 255:			
Perform graphics line spacing	ESC J n	27 74 n	1B 4A n
Line spacing amount is n/180;			
n = 0 to 255			
Select graphics mode	ESC * m n_1 n_2 data	27 42 m n_1 n_2 data	1B 2A m n_1 n_2 data

Miscellaneous control codes

Function	ASCII	Dec.	Hex.
Select Font Global	ESC [I n_1 n_2 f_1 f_2 s_1 s_2 s_3	27 91 73 n_1 n_2 f_1 f_2 s_1 s_2 s_3	1B 5B 49 n_1 n_2 f_1 f_2 s_1 s_2 s_3
Set 360 dpi graphics	FS C B m_1 m_2 n_1 n_2 data	28 67 66 m_1 m_2 n_1 n_2 data	1C 43 42 m_1 m_2 n_1 n_2 data
Set/Perform graphics line spacing	FS C J m n	28 67 74 m n	1C 43 4A m n
m = 0: set n/180 line spacing			
m = 4: set n/360 line spacing			

ESCape sequence code for colour printing

When the Color BJ Cartridge BC-11e is installed in the printer, the following colour command is available.

Function	ASCII	Dec.	Hex.
Select colour printing	ESC [M n_1 n_2 m	27 91 77 n_1 n_2 m	1B 5B 4D n_1 n_2 m
$n_1 = 1$, $n_2 = 0$			
m = 0;	Black (default)		
m = 1;	Blue		
m = 2;	Red		
m = 3;	Magenta		
m = 4;	Green		
m = 5;	Cyan		
m = 6;	Yellow		

LQ mode command summary

All of the control codes shown in the following tables can be used when the printer is in LQ mode.

Because of hardware differences, the justification code (ESC a) is not supported on your printer. The styles of block graphics characters at 12 cpi are also different from normal LQ-2550 printing.

Basic control codes

Function	ASCII	Dec.	Hex.
End command	NUL	0	00
Sound beeper	BEL	7	07
Backspace one character	BS	8	08
Horizontal tab control	HT	9	09
Move to next tab.			
Perform line feed	LF	10	0A
Vertical tab control	VT	11	0B
Move to next tab.			
Perform form feed	FF	12	0C
Perform carriage return	CR	13	0D
Set double-wide mode by line	SO	14	0E
Set condensed mode (17 cpi)	SI	15	0F
Cancel by DC2.			
Select printer	DC1	17	11
Cancel condensed mode	DC2	18	12
Set by SI. Cancel also by setting 2nd bit to 0 in the ESC ! n code.			
Deselect printer	DC3	19	13
Cancel double-wide mode	DC4	20	14
Cancel line	CAN	24	18
Insert space	SP	32	20
Delete character	DEL	127	7F

ESCape sequence codes

Function	ASCII	Dec.	Hex.
Set double-wide mode by line	ESC SO	27 14	1B 0E
Set condensed mode	ESC SI	27 15	1B 0F
Control automatic sheet feeder n = R: Eject paper	ESC EM n	27 25 n	1B 19 n
Function	ASCII	Dec.	Hex.
Set inter-character space n = 0 to 127	ESC SP n	27 32 n	1B 20 n
Select various print modes *1	ESC ! n	27 33 n	1B 21 n
Cancel MSB control	ESC #	27 35	1B 23
Set absolute print position	ESC $ n_1 n_2	27 36 n_1 n_2	1B 24 n_1 n_2
Select download character set	ESC % n	27 37 n	1B 25 n
Define download characters	ESC & NUL n_1 n_2 r_1 r_2 r_3 data	27 38 0 n_1 n_2 r_1 r_2 r_3 data	1B 26 00 n_1 n_2 r_1 r_2 r_3 data
Select score mode *2	ESC (- n_1 n_2 m d_1 d_2	27 40 45 3 0 1 d_1 d_2	1B 28 2D 03 00 01 d_1 d_2
Assign character table *3	ESC (t n_1 n_2 d_1 d_2 d_3	27 40 45 3 0 d_1 d_2 d_3	1B 28 2D 03 00 d_1 d_2 d_3
Print data as characters	ESC (^ n_1 n_2 data	27 40 n_1 n_2 data	1B 28 5E n_1 n_2 data

*1 Use the bit pattern (bit 0 to bit 7) of n, where n can range from 0 to 255, to set or cancel a combination of character pitch and highlighting.

Bit	0	1	2	3	4	5	6	7
1	12 cpi	PS	Condensed	Emphasized	Double	Double wide	Italic	Underscore
0	10 cpi	Cancel	Cancel	Cancel	Cancel	Cancel	Cancel	Cancel

*2 d_1 determines the score position:
d_1 = 1: underscore
d_1 = 2: strikethrough
d_1 = 3: overscore
d_2 determines the score type:
d_2 = 0: cancel the score set by d1
d_2 = 1: single continuous line
d_2 = 2: double continuous line
d_2 = 5: single broken line]
d_2 = 6: double broken line

*3 d_1 defines the character table area
d_1 = 0, 48: Table 0
d_1 = 1, 49: Table 1
d_1 = 2, 50: Table 2
d_1 = 3, 51: Table 3
d_2 defines the character table
d_2 = 0: Italics table
d_2 = 1: Code Page 437
d_2 = 3: Code Page 850
d_2 = 6: Code Page 855
d_2 = 7: Code Page 860
d_2 = 8: Code Page 863
d_2 = 9: Code Page 865
d_2 = 10: Code Page 852
d_2 = 11: Code Page 857
d_2 = 13: Code Page 864
d_2 = 15: Code Page 869
d_3 =0

Function	ASCII	Dec.	Hex.
Select image graphics mode *4	ESC * m n_1 n_2 data	27 42 m n_1 n_2 data	1B 2A m n_1 n_2 data
Set n/360 inch line spacing n = 0 to 255	ESC + n	27 43 n	1B 2B n
Set/cancel underline mode n = 0: Cancel auto-underscore n = 1: Set auto-underscore	ESC _ n	27 45 n	1B 2D n
Select vertical tab channel n = 0 to 7: Select tab cancel	ESC / c	27 47 c	1B 2F c
Set 1/8 inch line spacing	ESC 0	27 48	1B 30
Set 1/6 inch line spacing	ESC 2	27 50	1B 32
Set n/180 inch line spacing n = 0 to 255	ESC 3 n	27 51 n	1B 33 n
Set italic mode Cancel by ESC 5.	ESC 4	27 52	1B 34
Cancel italic mode	ESC 5	27 53	1B 35
Expand printable range	ESC 6	27 54	1B 36
Cancel printable range expansion	ESC 7	27 55	1B 37
Copy ROM font to RAM n: Defines font typeface	ESC : NUL n NUL	27 58 0 n 0	1B 3A 00 n 00
Set unidirectional print by line	ESC @	27 60	1B 3C
Set MSB to 0	ESC =	27 61	1B 3D
Set MSB to 1	ESC :	27 62	1B 3E
Reassign image graphics mode	ESC ? n m	27 63 n m	1B 3F n m
Reset printer Initialize all printer settings to the values when the printer goes on.	ESC @	27 64	1B 40
Set n/60 inch line spacing n = 0 to 85	ESC A n	27 65 n	1B 41 n
Set vertical tabs	ESC B n_1...n_{16} NUL	27 66 n_1...n_{16} 6 0	1B 42 n_1...n_{16} 00
Set page length in lines n = 1 to 127	ESC C n	27 67 n	1B 43 n
Set page length in inches n = 1 to 20	ESC C NUL n	27 67 0 n	1B 43 00 n

*4 m	Dot Density (DPI) Vertical	Horizontal	Bit Image Mode
0	60	60	8-bit normal-density bit image
1	60	120	8-bit double-density bit image
2	60	120	8-bit double-velocity double-density bit image
3	60	240	8-bit quadruple-density bit image
4	60	80	8-bit CRT graphics I
6	60	90	8-bit CRT graphics II
32	180	60	24-bit normal-density bit image
33	180	120	24-bit double-density bit image
38	180	90	24-bit CRT graphics II
39	180	180	24-bit triple-density bit image
40	180	360	24-bit sixtuple-density bit image
71	180	1440	48-bit triple-density bit image
72	360	2880	48-bit sixtuple-density bit image
73	360	2880	48-bit sixtuple-density bit image

Function	ASCII	Dec.	Hex.
Set horizontal tabs	ESC D n_1...n_{32} NUL	27 68n_1...n_{32} 0	1B 44n_1...n_{32} 00
Set emphasized mode Cancel by ESC F.	ESC E	27 69	1B 45
Cancel emphasized mode	ESC F	27 70	1B 46
Set double-strike mode	ESC G	27 71	1B 47
Cancel double-strike mode	ESC H	27 72	1B 48
Perform n/180 inch line feed n = 0 to 255	ESC J n	27 74 n	1B 4A n
Set single-density graphics mode	ESC K n_1 n_2 data	27 75 n_1 n_2 data	1B 4B n_1 n_2 data
Set double-density graphics mode	ESC L n_1 n_2 data	27 76 n_1 n_2 data	1B 4C n_1 n_2 data
Set 12 cpi mode Cancel by ESC P.	ESC M	27 77	1B 4D
Set perforation skip n = 1 to 127	ESC N		
Cancel perforation skip	ESC O		
Set 10 cpi mode Cancel 12 cpi or 15 cpi mode.	ESC P	27 80	1B 50
Set right margin	ESC Q n	27 81 n	1B 51 n
Select international character set *5	ESC R n	27 82 n	1B 52 n
Set super/subscript mode n = 0: Set superscript mode n = 1: Set subscript mode Cancel by ESC T.	ESC S n	27 83 n	1B 53 0n
Cancel super/subscript mode	ESC T	27 84	1B 54
Select print direction n = 0: Set bidirectional printing n = 1: Set undirectional printing	ESC U n	27 85 n	1B 55 n
Set/cancel double-wide mode n = 0: Cancel double-wide mode n = 1: Set double-wide mode	ESC W n	27 87 n	1B 57 n
Set double-density graphics mode	ESC Y n_1 n_2 data	27 89 n_1 n_2 data	1B 59 n_1 n_2 data
Set quadruple-density graphics mode	ESC Z n_1 n_2 data	27 90 n_1 n_2 data	1B 5A n_1 n_2 data
Set relative print position	ESC \ n_1 n_2	27 92 n_1 n_2	1B 5C n_1 n_2
Set vertical tabs in channels c = 0 to 7: Select channel	ESC b c n_1...n_{16} NUL	27 98 c n_1...n_{16} 0	1B 62 c n_1...n_{16} 00
Set 15 cpi mode Cancel by ESC P.	ESC g	27 103	1B 67

*5
- n = 0 USA
- n = 1 France
- n = 2 Germany
- n = 3 UK
- n = 4 Denmark I
- n = 5 Sweden
- n = 6 Italy
- n = 7 Spain I
- n = 8 Japan
- n = 9 Norway
- n = 10 Denmark II
- n = 11 Spain II
- n = 12 Latin America
- n = 13 Korea
- n = 64 Legal

The initial value is determined by FUNCTION 11, 12, and 13.

Function	ASCII	Dec.	Hex.
Select typeface *6	ESC k n	27 107 n	1B 6B n
Set left margin	ESC l n	27 108 n	1B 6C n
Set/cancel proportional space mode n=0: Cancel proportional spacing n=1: Set proportional spacing	ESC p n	27 112 n	1B 70 n
Select character style n = 0: Normal n = 1: Outline n = 2: Shadowing n = 3: Outline with shadowing n = Else: Command ignored	ESC q n	27 113 n	1B 71 n
Select character table n = 0: Table 0 (Italics table) n = 1: Table 1 (Code Page Selected by FUNCTION) n = 2: Table 2 (Download table) n = 3: Table 3 (Code Page Selected by FUNCTION)	ESC t n	27 116 n	1B 74 n
Set/cancel double-high mode n = 0: Cancel double-high mode n = 1: Set double-high mode	ESC w n	27 119 n	1B 77 n
Select high-speed/high-quality mode n = 0: Set Draft mode n = 1: Set high-quality (HQ) mode	ESC x n	27 120 n	1B 78 n

*6 n = 0 Roman (10,12,15,17,20, Proportional)
n = 1 Gothic (10,12,15,17,20, Proportional)
n = 2 Courier (10,12,15,17,20, Proportional)
n = 3 Prestige (10,12,15,17,20, Proportional)
n = Other Roman
The initial value of n is set via the control panel.

ESCape sequence code for colour printing

When the Color BJ Cartridge BC-11e is installed in the printer, the following colour command is available.

Function	ASCII	Dec.	Hex.
Select colour printing n = 0; Black n = 1; Magenta n = 2; Cyan n = 3; Blue n = 4; Yellow n = 5; Red n = 6; Green n = else; Command ignored	ESC r n	27 114 n	1B 72 n

Appendix D

Options and Supplies

Whenever you need any of these replaceable items, contact a local Canon Authorised Dealer or your Canon representative.

Consumables

Black BJ Cartridge BC-10
Contains both a print head unit and replaceable black ink cartridge.

Ink Cartridge BCI-10 Black
Used in the Black BJ Cartridge BC-10.

Color BJ Cartridge BC-11e
Incorporates a Bubble Jet print head and two replaceable ink cartridges: the Ink Cartridge BCI-11 Color and the Ink Cartridge BCI-11 Black.

Ink Cartridge BCI-11 Black
Used in the Color BJ Cartridge BC-11e.

Ink Cartridge BCI-11 Color
Three-colour ink cartridge used in the Color BJ Cartridge BC-11e.

Canon Li-Ion Battery LB-50
Rechargeable battery pack.

Paper and special media

Name	Media Type	Sizes
Bubble Jet Paper LC-301	Plain Paper	A4, LTR
Glossy Photo Paper GP-301	Glossy Paper	A4, LTR
Glossy Photo Cards FM-101	Glossy Photo cards	119.6 x 216mm
High Resolution Paper HR-101	Coated Paper	A4, LTR
Transparency CF-102	Transparency	A4, LTR
High Gloss Film HG-101	High Gloss Film	A4, LTR
Back Print Film BF-102	Back Print Film	A4, LTR
Fabric Sheet FS-101	Fabric Sheet	241 x 356 mm
T-Shirt Transfer TR-201	T-Shirt Transfer	216 x 279 mm

Available options

Canon Auto Sheet Feeder ASF-50

Allows you to stack and feed more than one sheet for printing.

Color Image Scanner Cartridge IS-12

This Scanner Cartridge turns your printer into a colour scanner.

BJ Cartridge Storage Container SB-10

Used for storing partially used Color BJ Cartridge BC-11e or Black BJ Cartridge BC-10.

Appendix E

Infrared Communications

System Requirements

In order to utilize the infrared communication capability, Microsoft IR Communications Driver Version 2.0 is required.

Please also note that the following minimum hardware and software requirements to enable infrared communication with the IR Communications Driver Version 2.0.

- Machine Architectures : IBM PC/AT or compatible computer
- CPU : Intel 80386 or higher
- IrDA : IrDA 1.0 compliant
- Baud Rate (Transfer Speed) : Max. 115.2k bps
- Hardware Device : An infrared port built into the system or an infrared adapter connected to one of the system's serial or parallel ports
- Operating System : Windows 95

Before Installing the IR Communications Driver Version 2.0

Please make sure that the IR Communications Driver Version 2.0 is installed in the hard disk of your computer.

1. Double-click on the Add/Remove Programs icon in the Control Panel for Windows. This displays the Add/Remove Programs Properties window.

2. If the IR Communications Driver Version 2.0 is displayed in the Install/Uninstall tab (e.g., Infrared Support for Windows 95 Version 2.0), you can use the infrared communication capability.

When the Microsoft IR Communications Driver Version 2.0 is installed in the hard disk of your computer

1. From the Start menu, choose Find, then click on Files or Folders. This displays the Find All Files dialog box.

2. Enter the file name “Relnotes.doc” or “Infrared.txt” in the Named box, and then click on the Find Now button. (Normally, these files exist under the Windows directory.)

3. The “Relnotes.doc” or “Infrared.txt” file describes the procedures for installing and using the IR Communications Driver Version 2.0. Please read the contents of the file carefully.

- When you install the IR Communications Driver Version 2.0 using the Add New Hardware's automatic detection in the Control Panel for Windows, the IR Communications Driver Version 2.0 may not be installed properly. If this should occur, follow the procedure below.
  1) When the message “Do you want Windows to search for your new hardware?” is displayed, choose No.
  2) Choose type of the hardware on the next screen, and then install the IR Communications Driver Version 2.0.
- When you start up the IR Communications Driver Version 2.0, double-click on the Infrared icon in the Control Panel for Windows. To check that infrared communication operation is enabled, click on the Status tab.
- When you operate the printer using infrared communication, open the Details tab from the printer properties dialog, then specify the COM port in the Print to the following port box. (e.g., Infrared Serial (COM) Connections Port Normally, COM4 is assigned.) Please note that the LPT setting is not effective and the printer does not operate.
  For more details on the port settings, please refer to the “Relnotes.doc” or “Infrared.txt” file.
- When using the Color Image Scanner IS-12, use of an interface cable is recommended; otherwise the scanner operation becomes slower.

When the Microsoft IR Communications Driver Version 2.0 is NOT installed in the hard disk of your computer

Please refer to the User's Manual of your computer for more information on infrared communication or consult with your computer manufacturer.

If necessary, you can download the Microsoft IR Communications Driver Version 2.0 from the Web site of Microsoft Corporation.

Appendix F

Specifications

Printer Specifications

Printing Method Bubble jet ink on-demand

Paper Handling Automatic feed

Print Speed

BC-10 Black print speed*:

HQ mode	346 cps
HS mode	434 cps

BC-11e Colour print speed:

Fine mode	0.26 ppm
HQ mode	1.8 ppm
HS mode	2.1 ppm

Printing Direction Uni-directional (or bi-directional, depends on data format)

Print Width Maximum 8 inches

Line Feed Speed Approximately 70 ms/line at 1/6 inch line in HQ, HS mode

Resident Printer BJ mode : IBM Proprinter X24E emulation

Control Modes

LQ mode: EPSON LQ-2550 emulation (for colour printing)
EPSON LQ-510 emulation (for black printing)

Canon Extended Mode

* Print speed depends on content of the document.

Line Feed Pitch (inch) BJ mode: 1/6, 1/8, n/60, n/72, n/180, n/216, and n/360
LQ mode: 1/6, 1/8, n/180, and n/360 (n: programmable)

Printing Characters Typeface: Roman, Gothic, Courier, Prestige, and Draft
Pitch: BJ mode — 10, 12, 17 cpi, and PS
LQ mode — 10, 12, 15, 17, 20 cpi, and PS
Cell composition:
36 (h) x 48 (v) dot matrix in HQ mode
18 out of 36 (h) x 48 (v) dot matrix in HS mode
Character set:
BJ mode — IBM character set 1, 2, and All characters chart
LQ mode — Italic character table and Graphics character
Code page: 437, 850, 860, 863, 865, 857, 855, 852, 864, and 869

Maximum Number of Characters per Line

BJ mode:

Mode	Pitch	Characters per line
10 cpi	10.0 cpi	80.0 cpl
10 cpi double-wide	5.0 cpi	40.0 cpl
10 cpi condensed	17.0 cpi	136.0 cpl
10 cpi condensed double-wide	8.5 cpi	68.0 cpl
12 cpi	12.0 cpi	96.0 cpl
12 cpi double-wide	6.0 cpi	48.0 cpl
Proportional spacing	PS	Varies

LQ mode:

Mode	Pitch	Characters per line
10 cpi	10.0 cpi	80.0 cpl
10 cpi double-wide	5.0 cpi	40.0 cpl
10 cpi condensed	17.0 cpi	136.0 cpl
10 cpi condensed double-wide	8.5 cpi	68.0 cpl
12 cpi	12.0 cpi	96.0 cpl
12 cpi double-wide	6.0 cpi	48.0 cpl
12 cpi condensed	20.0 cpi	160.0 cpl
12 cpi condensed double-wide	10.0 cpi	80.0 cpl
15 cpi	15.0 cpi	120.0 cpl
15 cpi double-wide	7.5 cpi	60.0 cpl
Proportional spacing	PS	Varies

Graphic Image Print

Data format: Vertical 8, 24, and/or 48-dot format
Resolution: Horizontal 60 dpi
Horizontal 120 dpi
Horizontal 180 dpi
Horizontal 240 dpi
Horizontal 360 dpi
Horizontal 720 dpi

Buffer

BJ mode: Input buffer: 34 kB (or 2 kB)
Download buffer: 0 kB (or 32 kB)
LQ mode: Input buffer: 25 kB (or 2kB)
Download buffer: 0 kB (or 23 kB)
The values in parentheses show the buffer sizes when automatic emulation switching is turned on.

Interface

IEEE 1284 compatible parallel interface
IrDA 1.0 interface

Color BJ Cartridge BC-11e

Print head: 64 nozzles for Black, 24 nozzles each for Cyan, Magenta, and Yellow
Ink Colour: Black, Cyan, Magenta, and Yellow
Number of pages printed (Black Ink Cartridge BCI-11):
Approx. 45 pages/cartridge in HQ mode (at 5% coverage)
Number of pages printed (Color Ink Cartridge BCI-11):
Approx. 40 pages/cartridge in HQ mode (at 7.5% coverage for each colour)

Black BJ Cartridge BC-10

Print head: 128 bubble jet nozzles
Ink Colour: Black
Number of pages printed:
Approx. 170 pages/cartridge in HQ mode (at 5% coverage)

Acoustic Noise Level	45 dB or less in HQ mode (Approx. 43 dB in Fine mode) (Per ISO 9296)	
Operating Environment	Temperature:	5 °C to 35 °C (41 °F to 95 °F)
	Humidity:	10% to 90% RH (no condensation)
Storage Environment	Temperature:	0 °C to 35 °C (32 °F to 95 °F)
	Humidity:	5% to 95% RH (no condensation)
Power Source	Universal AC Adapter AD-360U connected to AC power source	
Power Consumption	Printing:	23W
	Standby:	3 W
	Off:	2 W
Battery Pack	Type:	Lithium-ion battery
	Voltage level:	12V DC
	Size:	213.3 x 28.5 x 20.6 mm
	Weight:	Approx. 160 g

Dimensions (W x D x H):
302 mm (11.9 in.) x 112.5 mm (4.4 in.) x 49 mm (2 in.)

Weight Approx. 900g (2.0 lb.) including battery

F

Appendix G

Interface Specifications

Parallel interface

To connect this printer with a computer via the parallel interface connector provided on the printer, you must use the Canon Printer Cable BIFC-50 provided with printer (or its equivalent).

Interface type:	Parallel Centronics with 1mm-pitched connector.
Interface cable	
Type:	Twisted-pair shielded cable with a ferrite core
Material:	AWG#28
Length:	1.5 m (5 ft)
Interface connectors	
Printer side:	Japan Molex 52629-2611 (or equivalent)
Cable side:	Fujitsu Takamisawa Component FCN-28φP26 G/E (or equivalent)

IrDA interface

Because of its simplicity and versatility, the IrDA interface, controlled by the Infra-red Data Association, is rapidly gaining popularity among users of personal computers.

Interface type:	IrDA 1.0 Compatible
Data rates:	Maximum 115.2 kbps
Effective angle:	±15°
Effective distance:	Maximum 1.0 m (3.2 ft.)

Glossary

A4 size paper
A paper size: 210 mm x 297 mm. This printer accepts A4 paper.

AC
Alternating current. The type of electrical current available from a wall outlet.

additive colours
The three primary colours (red, green, and blue) frequently abbreviated as RGB. When combined using an additive process at varying intensities on a colour monitor, for example, these three colours can be used to create a wide spectrum of colours.

AGM
Alternate Graphics Mode. Available in BJ mode for IBM Proprinter X24E emulation.

ASCII
Acronym for American Standard Code for Information Interchange. A set of definitions for the bit composition of characters and symbols. ASCII defines 128 symbols using 7 binary bits and 1 parity bit.

ASCII chart
A chart correlating ASCII codes with specific control functions or alphanumeric characters. See control code.

Auto Power Off
A power save feature that switches off the printer automatically if the printer does not receive a print job over 30 minutes. The Auto Power Off feature is switched off and on with the printer driver.

battery pack
The Canon Li-Ion Battery LB-50 is a rechargeable battery installed inside the printer.

binary
A number system consisting of two digits (0 and 1).

bit
Shortened form “binary digit”. The elemental unit of digital information. Written as either 1 or 0.

BJ Cartridge
The BJ Cartridge is composed of the print head unit and ink cartridge. This removable cartridge makes maintenance of the printer very simple.

BJ mode
The printer control mode in which the printer emulates the IBM Proprinter X24E.

Bubble Jet printer
An ink jet type printer that heats the ink to a boiling point in a nozzle to form a bubble. When the bubble expands, there is no room left in the nozzle for the ink which is ejected onto the paper.

buffer
A temporary storage area in computer or printer memory in which data for input or output is stored until it can be processed.

byte
A unit of eight bits. A byte is approximately equivalent to a character.

cartridge holder
A unit that holds the BJ Cartridge and its ink cartridges. The cartridge holder moves backwards and forwards when the printer is operating and remains at rest in the home position on the left side of the printer when the printer is not in use.

character
Any symbol that has a widely understood meaning and can thus convey information. Some characters, such as letters, numbers, and punctuation marks, are printable.

character set
A complete collection of the characters and symbols that constitute all the elements of a language or discipline (mathematics, for example), including punctuation and numbers, with a one-to-one correspondence to the ASCII codes 00h-7Fh (hexadecimal). The printer uses these characters to determine its printing and non-printing activities after it receives data from the host computer.

CMYK
An acronym for Cyan, Magenta, Yellow and black, the four colours used in the standard colour model of the printing industry.

code page
A set of 256 graphic designs (characters) associated with unique code values from 0 through 255. The printer supports 10 code pages - 437, 850, 852, 855, 857, 860, 863, 864, 865, and 869.

command
An instruction that tells the printer to perform a certain function. Commands are sent from the host computer to the printer via the printer cable when the printer is on-line.

Commercial 10 (US Commercial)
A common size of envelope: 9.5 x 4.1 inches or 241 x 105 mm.

composite black
The composite black colour formed by mixing cyan, yellow, and magenta ink so that they appear almost black on a print out.

configuration
The defining of certain printer settings to allow the printer to communicate properly with your computer.

control code
Special data that invokes non-printing functions of the printer, such as line feed or carriage return. In the ASCII chart, control codes are represented by decimal numbers 0-31, 127, 128, 159, and 255.

cpi
Characters per inch. A unit of measurement relevant to a fixed-space font. Because all characters have the same width, you can calculate the number of characters printed per inch.

cpl
Characters per line. A unit of measurement that indicates the number of characters printed per line.

cps
Characters per second. A unit of measurement that indicates the printer's speed.

dB
Stands for decibel level (a decibel being a unit of measurement for the intensity of the sound), adjusted for background noise.

default setting
A printer setting selected at the factory and permanently registered in the printer's ROM. It is a setting that the printer assumes unless you provide instruction to the contrary. For example, the default printer control mode on this printer is BJ mode.

dithering
A method by which colour dots are combined on a page to produce a wide spectrum of colours.

dot matrix
A pattern of dots arranged in a matrix, used for creating alphanumeric strings, punctuation, and special characters. A matrix is described by the number of rows and columns it has, for example, 9 x 12 (108 cells).

download buffer
An area of the printer's memory that holds downloaded font information.

downloading
The process of transferring fonts from the computer to the printer's memory. These transferred fonts can be stored in the printer until it is turned off.

dpi (dots per inch)
A unit of measurement for indicating printer resolution. The standard resolution for your printer is 360 dpi in the HQ mode. In the smoothing mode, resolution up to 720 x 360 dpi can be achieved.

embedded printer commands
Printer commands typed directly into a software file by a user to instruct the printer to change its printing characteristics, such as to change fonts or to underline text.

escape character
A non-printing character used to indicate to the printer that the data that follows is an Escape sequence.

escape sequences
Commands beginning with the Escape character, which are used to control the printer. The unprintable Escape character is followed by a unique series of letters and numbers that provide instructions to the printer.

factory default
Factory defaults refer to the settings that are selected for the printer at the factory. These settings are used unless you override them by sending escape sequences.

fixed pitch spacing
Equal spacing for each characters of the same character set. In printing a fixed pitch font, each character, whether narrow or wide, takes up the same amount of space.

fixed pitch font
A font in which all characters take up the same amount of space. An “i” takes as much space as a “w”.

font
A complete set of characters of the same size and style; a particular implementation of a typeface. For example, 12 point, Courier bold.

font characteristics
Font characteristics determine the appearance of a printed font. These characteristics include orientation, character height, style, stroke weight, and typeface.

form feed
A printer function that automatically ejects the current page and advances the printer to the top of the next page.

graphic
A written, printed, or electronically displayed symbol or drawing. Also characters or text that has been generated by a computer graphics application program.

greyscale
The variation of colour between black and white as a result of different intensities of black ink.

halftone
Shades of grey or shades of colours produced by mapping dots to be printed. For colour printing, different coloured dots of ink are placed closely together to create illusions of other colours.

hexadecimal
Numbers represented in base 16. Digits 0-9 and A, B, C, D, E, F are used. Frequently used in programming and referred to as “hex”.

hexadecimal dump mode
On a printer, a mode used to print out data or commands sent from the host. It is information that is useful for debugging programs.

High Quality (HQ) mode
One of the print modes available on this printer. Print speed is 346 cps at 10 cpi.

High Speed (HS) mode
One of the print modes available on this printer. Print speed is 434 cps at 10 cpi.

home position
This term refers to the position of the cartridge holder when it is at rest on the far left side of the platen. In this position, the print head is always capped to keep it from drying out. The cartridge holder moves out of the home position when the printer starts printing or after you press the CARTRIDGE button to move it out so you can remove the BJ Cartridge.

host computer
The computer that is connected to a printer and can be used to drive the printer when the printer is on-line.

hue
A colour in the colour spectrum. Examples are red, green, and violet.

ink jet printer
A non-impact printer that ejects ink onto paper to form characters. This printer is a special type of ink jet printer called a Bubble Jet printer.

input buffer
An area of the printer's memory containing the data that has been sent to the printer.

interface
The connection between two devices that makes it possible for them to communicate with each other. The printer features a parallel interface, which makes it compatible with IBM and similar personal computers. In order to connect the printer and computer via the parallel interface, you must use the Canon Printer Cable BIFC-50 provided with the printer.

interface port
The printer is provided with a parallel and an IrDA port on the left side of the printer.

internal fonts
Internal fonts are fonts permanently stored in the printer.

IrDA
Infra-red Data Association. The standard for the infra-red wireless communication. This printer has IrDA1.0 which allows a maximum data transfer of 115.2 kbps.

kB
See kilobyte.

kilobyte (kB)
A unit of measurement, representing the binary number 1024, used to describe printer or computer memory size in 1024-byte units.

landscape orientation
Landscape orientation refers to printing across the length of the page, as opposed to portrait orientation, which is printing across the width of the page.

Legal size paper
A paper size: 8.5 x 14 inches. This printer accepts this size of paper.

Letter size paper
A paper size: 8.5 x 11 inches. This printer accepts this size of paper.

line feed
A printer function that advances the paper one line.

lpi
Lines per inch. The measurement used in describing the number of lines that will print within one vertical inch. Most printing is done in 6 or 8 lpi.

LQ mode
The printer control mode in which the printer emulates the EPSON LQ-2550 printer. Colour printing is only available in this mode.

noise level
See dB.

non-impact printer
Printers, such as Bubble Jet, ink jet, thermal, and laser printers, that form characters by means other than striking the character against the paper. These printers run more quietly than dot matrix and formed-character printers. Your printer is a non-impact printer.

page orientation
Orientation refers to the direction of print on the page. Printing across the width of a page is called portrait orientation printing. Printing across the length of a page is called landscape orientation printing.

paper feed
Refers to guiding a sheet of paper into the printer's paper path.

paper jam
Paper is caught along the paper path. You must remove jammed paper before you can continue printing.

parallel interface
An interface that transmits multiple bits simultaneously (usually in one-byte segments). Your printer is provided with one parallel interface port on the left side of the printer.

PC
Personal computer

pitch
Refers to the number of characters per inch that can be printed using a fixed-space font.

platen
Printer component that holds the paper near the print head during ink transfer.

point size
Character height is defined in points; one point is 1/72 inch. For instance, this text is printed using a 10 point font.

printer cable
The cable used to connect your printer and a computer.

printing area
The area of a sheet of paper on which a printer can reproduce text or graphics. The printing area is smaller than the paper.

print head capping
An automatic protection function that prevents the print head unit and ink cartridges from drying out or becoming clogged with dust.

Print mode
The print mode setting determines how the printer operates. Set the print mode according to the type of printing you want to do and the type of media you are using. There are three print modes: HQ (High Quality), HS (High Speed), and FINE.

printer command
A printer command is also called an escape sequence. Refer to the definition for Escape Sequence.

printer control mode
This printer has two control modes: LQ and BJ. The printer control mode determines the features the printer supports.

printer driver
Software that sends printing instructions to a printer. The printer driver keeps track of the attributes of a printer and the codes the program must send to access those attributes.

proportionally spaced font (PS font)
A font in which each characters is given an amount of space proportional to its size: less for an “i” and more for a “w”.

proportional spacing
The spacing of characters according to the width of each character. This variable spacing between each character closes up awkward-looking gaps and makes the text easier to read.

PS
In this manual, PS stands for “proportionally spaced” not “PostScript”.

RAM
Random Access Memory. Printer memory that is used for temporary storage of information you want to print and for downloaded fonts.

resident font
A font that is built into the printer, as opposed to one that must be downloaded from your computer. Resident fonts are stored in ROM.

resolution

The density of dots for any given output device. Expressed in terms of dots per inch (dpi). Low resolution causes font characters and graphics to have a jagged appearance. Higher resolution means smoother curves and angles as well as a better match to traditional typeface designs. This printer can normally produce output with 360 dpi resolution. When you see a value given for resolution, the resolution for the horizontal direction is given first and the vertical direction second. For example, 720 x 360 dpi means 720 dots horizontally and 360 dots vertically. The maximum 720 x 360 dpi print resolution for this printer can be attained with a Black BJ Cartridge BC-10 while the smoothing function turned on.

RGB

An acronym for Red, Green, and Blue, the three primary colours used in the additive process to form a wide spectrum of colours.

ROM

Read Only Memory. You cannot modify this printer memory. When the printer is turned off, ROM memory remains intact. In this printer, the default settings and the resident fonts are stored in ROM.

saturation

The amount of hue of a colour. The further the particular hue moves away from the center of the colour wheel, the more saturated it is.

software application

Software prepared for a specific function or set of functions. Examples of applications are word processing, graphics preparation, and spread-sheets. Programmers who prepare application programs include printer drivers that support different types of printers.

spacing

All fonts are designed with either fixed or proportional spacing. Using fixed spacing, all character cells are the same width. Using proportional spacing, character cell width depends on the character size.

subscript

One or more characters printed one-half line below the normal printing line. See also Superscript.

subtractive colours
The three primary colours (cyan, yellow, and magenta) which when combined through a subtractive process reflect light of a particular colour.

superscript
One or more characters printed one-half line above the normal printing line. See also Subscript.

text mode
The mode the printer is in when it is printing text.

text scale mode
The mode that reduces the line spacing by a factor of 14/15 (from 62 to 66 lines per page if line spacing is set to 6 lines per inch). This provides compatibility with software that assumes 66 lines will fit on each page.

top-of-form (TOF)
The printing position at the start of a new page.

true black
Contrary to “composite black”, true black colour on a printout is obtained with the use of black ink.

TrueType font
The scalable font technology built into Microsoft Windows 98/ Windows 95 and other software programs. It offers you the same font images on both computer displays and printer outputs.

typeface
The design of characters. For instance, Courier, Script, and Roman typefaces all print characters of different designs.

typestyle
Refers to how the type face appears: slanted (italic) or upright.

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